Automotive Products Selector Guide

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SINGLE LINEAR VOLTAGE REGULATORS

Device	Output Voltage	Tolerance	Output Current	Dropout (Max)	Sleepmode Current (Max)	Quiescent Current [Max] @ Low Load (Load)	Enable	Reset (◆◆ = Adjustable)	Delay	Early Warning Flag/Monitor	WATCHDOG	Wakeup	Current Limit	Overvoltage	Overtemperature	Peak Transient	Package(s)
NCV553	5 V	±3%	80 mA	0.8 V	–	6 µA (1 mA)							●		●	12 V	SC-82
CS8101	5 V	±2%	100 mA	0.6 V	50 µA	140 µA (100 µA)	♦	♦					●	●	●	60 V	SO-8, SO-20 Fused
CS8151	5 V	±2%	100 mA	0.6 V	–	750 µA (200 µA)		♦	♦		♦	♦	●	●	●	74 V	DIP-16 Fused, SO-16 Fused
CS8221	5 V	±2%	100 mA	0.6 V	–	120 µA (100 µA)							●	●	●	60 V	D2PAK-3, SO-8 Fused
NCV317L	Adj	±4%	100 mA	1.9 V (Typ)	–	–							●		●	40 V	SO-8, TO-92
NCV2931	Adj, 5 V	±5%	100 mA	0.6 V	1 mA	1 mA (10 mA)	♦						●	●	●	60 V	SO-8, D2PAK-3, DPAK-3
NCV2931A	Adj, 5 V	±4.2%	100 ma	0.6 V	1 mA	1 mA (10 mA)	♦						●	●	●	60 V	SO-8, SOT-223
NCV2951	Adj, 3.3, 5 V	±2.4%	100 mA	0.45 V	–	120 µA (100 µA)	♦	♦					●		●	30 V	SO-8
NCV2951A	Adj, 3.3, 5 V	±1.5%	100 mA	0.45 V	–	120 µA (100 µA)	♦	♦					●		●	30 V	SO-8
NCV4949	5 V	±2%	100 mA	0.5 V	–	260 µA (300 µA)		♦		♦			●		●	40 V	SO-20, SO-8
NCV612	1.5, 1.8, 2.5, 2.7, 2.8, 3.0, 3.1, 3.3, 5.0 V	±3%	100 mA	0.3 V	1 µA	90 µA (1 mA)	♦						●		●	6 V	SC-70
NCV662	1.5, 1.8, 2.5, 2.7, 2.8, 3.0, 3.3, 5.0 V	±4%	100 mA	0.3 V	1 µA	6 µA (1 mA)	♦						●		●	6 V	SC-82
NCV663	1.5, 1.8, 2.5, 2.7, 2.8, 3.0, 3.3, 5.0 V	±4%	100 mA	0.3 V	–	6 µA (1 mA)							●		●	6 V	SC-82
NCV78L00A	5, 8, 12, 15, 24 V	±4%	100 mA	1.7 V (Typ)	–	–							●		●	30 V	SO-8, TO-92
NCV551	1.5, 1.8, 2.5, 2.7, 2.8, 3.0, 3.1, 3.2, 3.3, 5 V	±3%	150 mA	0.22 V	1 µA	8 µA (1 mA)	♦						●		●	12 V	TSOP-5
NCV4264	3.3, 5 V	±2%	150 mA	0.5 V	–	400 µA (1 mA)							●		●	45 V	SOT-223
NCV4264-2	3.3, 5 V	±2%	150 mA	0.5 V	–	70 µA (100 µA)							●		●	45 V	SOT-223
NCV4269	5 V	±2%	150 mA	0.5 V	–	250 µA (1 mA)		♦♦	♦	♦			●		●	60 V	SO-8, SO-20 Fused, SO-14 Fused
NCV4279	5 V	±2%	150 mA	0.5 V	–	250 µA (1 mA)		♦♦	♦	♦			●		●	60 V	SO-8, SO-14 Fused
NCV4299	3.3, 5 V	±2%	150 mA	0.5 V	1 µA	105 µA (1 mA)	♦	♦♦	♦	♦			●		●	60 V	SO-8, SO-14 Fused
NCV8501	Adj, 2.5, 3.3, 5, 8, 10 V	±2%	150 mA	0.6 V	30 µA	75 µA (100 µA)	♦	♦	♦	♦			●		●	60 V	SO-8, SO-16 Epad
NCV8502	Adj, 2.5, 3.3, 5, 8, 10 V	±2%	150 mA	0.6 V	–	75 µA (100 µA)		♦♦	♦	♦			●		●	60 V	SO-8, SO-16 Epad
NCV8512	5 V	±2%	150 mA	0.6 V	–	200 µA (100 µA)		♦♦	♦	♦			●		●	60 V	SO-16 Epad

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details. **Selector tree available on page 19.**

SINGLE LINEAR VOLTAGE REGULATORS

Device	Output Voltage	Tolerance	Output Current	Dropout (Max)	Sleepmode Current (Max)	Quiescent Current [Max] @ Low Load (Load)	Enable	Reset (◆◆ = Adjustable)	Delay	Early Warning Flag/Monitor	WATCHDOG	Wakeup	Current Limit	Overvoltage	Overtemperature	Peak Transient	Package(s)
NCV8560	Adj, 1.3, 1.5, 1.8, 2.5, 2.8, 3.0, 3.3, 3.5, 5.0 V	±2%	150 mA	0.125 V	1 µA	180 µA (150 mA)	♦						●		●	6 V	DFN-6 3x3, TSOP-5
NCV8660	3.3, 5 V	±2%	150 mA	0.6 V	–	40 µA (150 mA)		♦	♦				●		●	40 V	SO-8 Fused, DPAK-5
NCV8664	3.3, 5 V	±2%	150 mA	0.6 V	–	30 µA (100 µA)							●		●	45 V	DPAK-3, SOT-223
NCV8665	2.5, 3.3, 5 V	±2%	150 mA	0.6 V	–	40 µA (150 mA)		♦	♦				●		●	45 V	DPAK-5
NCV8570	1.8, 2.5, 2.75, 2.8, 3.0, 3.3 V	±2%	150 mA	0.155 V	1 µA	90 µA (1 mA)	♦						●		●	6 V	DFN-6 2x2
NCV8508	5 V	±3%	250 mA	0.9 V	150 µA (Operating Mode)	150 µA (150 mA)		♦	♦		♦	♦	●		●	60 V	D2PAK-7, SO-16 Fused, SO-8 Epad
NCV8518	5 V	±2%	250 mA	0.75 V	1 µA	150 µA (150 mA)	♦	♦	♦		♦	♦	●		●	45 V	SO-8 Epad, SO-16 Epad
NCV8518A	5 V	±2%	250 mA	0.75 V	1 µA	40 µA (100 µA)		♦	♦				●		●	45 V	SO-8 Epad, SO-16 Epad
NCV33275	5 V	±2%	300 mA	0.5 V	–	200 µA (0 µA)							●		●	13 V	SOT-223
NCV8674	5 V	±2%	350 mA	0.6 V	–	150 µA (150 mA)	♦	♦	♦		♦	♦	●		●	45 V	D2PAK-3
NCV8675	3.3, 5 V	±2%	350 mA	0.6 V	–	50 µA (100 µA)		♦	♦				●		●	45 V	D2PAK-5
NCV8503	Adj, 2.5, 3.3, 5 V	±2%	400 mA	0.6 V	1 µA	350 µA (100 µA)	♦	♦♦	♦	♦			●		●	60 V	SO-16 Epad
NCV8504	Adj, 2.5, 3.3, 3.5 V	±2%	400 mA	0.6 V	–	150 µA (100 µA)		♦♦	♦	♦			●		●	60 V	SO-16 Epad
NCV8505	Adj, 2.5, 3.3, 5 V	±2%	400 mA	0.6 V	1 µA	350 µA (100 µA)	♦	♦	♦				●		●	60 V	D2PAK-7
NCV8506	Adj, 2.5, 3.3, 5 V	±2%	400 mA	0.6 V	–	150 µA (100 µA)		♦	♦				●		●	60 V	D2PAK-7
NCV4274	2.5, 3.3, 5 V	±4%	400 mA	0.5 V	–	250 µA (1 mA)							●		●	60 V	DPAK-3, D2PAK-3, SOT-223
NCV4274A	2.5, 3.3, 5 V	±2%	400 mA	0.5 V	–	250 µA (1 mA)							●		●	60 V	DPAK-3, D2PAK-3, SOT-223
NCV4276	Adj, 1.8, 2.5, 3.3, 5 V	±4%	400 mA	0.5 V	10 µA	220 µA (1 mA)	♦						●		●	45 V	DPAK-5, D2PAK-5
NCV4276A	Adj, 3.3, 5 V	±2%	400 mA	0.5 V	10 µA	220 µA (1 mA)	♦						●		●	45 V	DPAK-5, D2PAK-5
NCV4275	5 V	±2%	450 mA	0.5 V	–	200 µA (1 mA)		♦	♦				●		●	45 V	DPAK-5, D2PAK-5
NCV4275A	3.3, 5 V	±2%	450 mA	0.5 V	–	38 µA (100 µA)							●		●	45 V	DPAK-5, D2PAK-5
NCV317M	Adj	±4%	500 mA	2.2 V (Typ)	–	–							●		●	40 V	DPAK-3
NCV5500	Adj, 1.5, 3.3, 5 V	±4.9%	500 mA	0.7 V	50 µA	500 µA (100 µA)	♦						●		●	18 V	DPAK-5
NCV5501	1.5, 3.3, 5 V	±4.9%	500 mA	0.7 V	–	500 µA (100 µA)							●		●	18 V	DPAK-3
NCV78M0x	5, 8, 12, 15 V	±4%	500 mA	2 V (Typ)	–	200 µA (1 mA)		♦	♦				●		●	35 V	TO-220, DPAK-3
NCV8141	5 V	±4%	500 mA	1.5 V	50 µA	50 µA (0 µA)	♦	♦	♦		♦		●	●	●	60 V	D2PAK-7
NCV8535	Adj, 1.5, 1.8, 2.5, 2.8, 2.85, 3.0, 3.3, 5 V	±1.5%	500 mA	0.34 V	1 µA	190 µA (100 µA)	♦						●		●	16 V	DFN-10 3x3
CS8126	5 V	±3%	750 mA	0.6 V	–	–		♦	♦				●	●	●	60 V	D2PAK-7
CS8129	5 V	±3%	750 mA	0.6 V	–	–		♦	♦				●	●	●	60 V	SO-16
NCV33269	Adj, 3.3 V	±2%	800 mA	1.35 V	–	–							●		●	20 V	DPAK-3
NCV780x	5, 8, 12, 15 V	5%	1 to 2 A‡	2.0 V (Typ)	–	–							●		●	40 V	TO-220, DPAK-3, D2PAK-3
NCV5661	Adj, 1.2, 1.5, 1.8, 2.5, 2.8, 3.0, 3.3 V	±2%	1 A	1.3 V	300 µA	–	♦	♦					●		●	18 V	DPAK-5

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details. ‡ See data sheet for details. Selector tree available on page 19.

SINGLE LINEAR VOLTAGE REGULATORS

Device	Output Voltage	Tolerance	Output Current	Dropout (Max)	Sleepmode Current (Max)	Quiescent Current [Max] @ Low Load (Load)	Enable	Reset (◆ = Adjustable)	Delay	Early Warning Flag/Monitor	WATCHDOG	Wakeup	Current Limit	Overvoltage	Overtemperature	Peak Transient	Package(s)
NCV317	Adj	±4%	1.5 A	2.25 V Typ	–	–							●		●	40 V	TO-220, D2PAK-3
NCV565	Adj	±3%	1.5 A	1.3 V	–	–							●		●	9 V	D2PAK-5
NCV1117	Adj, 1.5, 1.8, 2.5, 3.3, 5 V	±2%	1 A	1.2 V	–	–							●		●	20 V	DPAK-3, SOT-223
NCV5662	Adj, 1.5 V	±2%	2 A	1.3 V	300 µA	–	♦	♦					●		●	18 V	D2PAK-5
NCV5663	Adj, 1.5 V	±2%	3 A	1.3 V	300 µA	–	♦	♦					●		●	18 V	D2PAK-5

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details. ‡See data sheet for details. Selector tree available on page 19.

DUAL LINEAR VOLTAGE REGULATORS

Device	Output Voltage	Tolerance	Output Current	Dropout (Max)	Sleepmode Current (Max)	Quiescent Current [Max] @ Low Load (Load)	Enable	Reset	Delay	Sequenced	Current Limit	Overvoltage	Overtemperature	Peak Transient	Package(s)
CS8361	5 V Tracking	±2% 25 mV	100 mA 250 mA	0.6 V 0.7 V	200 µA	200 µA (300 µA)	♦	♦			●	●	●	60 V	D2PAK-7, SO-16 Fused
NCV8509	5.0, 5.0, 3.3 V 2.6, 2.5, 1.8 V	±2% ±2%	100 mA 115 mA	0.6 V –	–	175 µA (200 µA)		♦	♦	♦	●		●	50 V	SO-16 Epad
NCV5504	Adj, 3.3 V	±2% ±2%	250 mA 250 mA	0.4 V 0.4 V	–	450 µA (0 µA)					●		●	18 V	DPAK-5

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details. Selector tree available on page 19.

TRACKING REGULATORS

Device	Output Voltage	Tolerance	Output Current	Dropout (Max)	Sleepmode Current (Max)	Quiescent Current [Max] @ Low Load (Load)	Enable	Reset	Current Limit	Overvoltage	Overtemperature	Peak Transient	Package(s)
NCV8184	Tracking	±3 mV	70 mA	0.6 V	20 µA	70 µA (100 µA)	♦		●		●	42 V	DPAK-5,S
CS8182	Tracking	±5 mV	200 mA	0.6 V	55 µA	150 µA (100 µA)	♦		●		●	45 V	DPAK-5, D2PAK-5, SO-8 Fused
CS8183	Tracking Tracking	±5 mV ±5 mV	200 mA** 200 mA**	0.6 V 0.6 V	55 µA	150 µA (100 µA)	♦		●		●	45 V	SO-20 Fused
CS8361	Tracking 5 V	±25 mV ±2 %	250 mA 100 mA	0.7 V 0.6 V	200 µA	200 µA (300 µA)	♦	♦	●	●	●	60 V	D2PAK-7, SO-16 Fused

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details. **Can be combined for single 400 mA operation.

LINEAR VOLTAGE REFERENCES

Device	Voltage	Tolerance	Forward Current (Max)	Reverse Current (Max)	Adj Range	Dynamic Impedance (Typ)	Temperature Drift (Typ)	Time Drift	Package(s)
NCV1009	2.5 V	2%	10 mA	20 mA	5%	0.4 Ω	1.8 mV	20 ppm/kHr	SO-8
NCV431A	2.5 V	±2.20%	100 mA	150 mA	-	0.22 Ω	7.0 mV	-	SO-8, Micro8™
NCV431B	2.5 V	±0.80%	100 mA	150 mA	-	0.22 Ω	3.0 mV	-	Micro8

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

SWITCHING VOLTAGE REGULATORS

Device	Type	Output Voltage	Voltage Tolerance	Switch Current	Osc Freq	Input Range	Mode	Regulator	Controller	Synchronous	Enable	Sequenced	Linear Regulator	Reset	WDI	SYNC	Current Limit	Overtemperature	Peak Transient	Package(s)
NCV2574	Buck	Adj	+4.1	0.65 A	52 kHz	4.75-40 V	Voltage	♦			♦						●	●	40 V	SO-16
NCV8800	Buck	2.6, 3.3, 5.0, 7.5 V	3.0%	1.0 A	200 kHz	3.5-24 V	V2	♦		♦	♦	♦					●	●	45 V	SO-16 Fused
NCV8842	Buck	Adj	2.0%	1.5 A	170 kHz	4.4-40 V	V2	♦								♦	●	●	45 V	SO-16 Fused, DFN-18
NCV8843	Buck	Adj	2.0%	1.5 A	340 kHz	4.4-40 V	V2	♦								♦	●	●	45 V	SO-16 Fused, DFN-18
NCV51411	Buck	Adj	2.0%	1.6 A	260 kHz	4.4-40 V	V2	♦								♦	●	●	40 V	SO-8, SO-16 Epad
NCV33063A	Boost or Buck	Adj	2.0%	1.5 A	33 kHz	3-40 V	Invert	♦											40 V	SO-8
NCV3063	Boost or Buck	Adj	2.0%	1.5 A	150 kHz	5-40 V	Invert	♦	♦									●	40 V	DIP-8, SO-8, DFN-8 4x4
NCV3065	Boost or Buck	Adj	5.0%	1.5 A	150 kHz	3-40 V	Constant Current*	♦	♦										40 V	DIP-8, SO-8, DFN-8 4x4
NCV33163	Boost or Buck	Adj	2.0%	2.5 A	50 kHz	2.5-60 V	Invert	♦						♦			●	●	60 V	DIP-16, SO-16
NCV3163	Boost or Buck	Adj	3.0%	2.5 A	250 kHz	2.5-40 V	Voltage	♦			♦						●	●	40 V	SO-16 Epad
CS5112	Boost	Adj	3.6%	1.4 A	Adj	5-26 V	Current	♦			♦		♦	♦	♦		●	●	54 V	SO-24 Fused
NCV5171	Boost	Adj	2.1%	1.5 A	280 kHz	2.7-30 V	Current	♦			♦					♦	●	●	35 V	SO-8
NCV5173	Boost	Adj	2.1%	1.5 A	560 kHz	2.7-30 V	Current	♦			♦					♦	●	●	35 V	SO-8
CS2841B	PWM	Adj	1.0%	0.2 A	Adj	8-40 V	Current		♦				♦				●		40 V	DIP-14, SO-14
NCV3843BV	PWM	Adj	2.0%	0.2 A	52 kHz	9-30 V	Current		♦								●		30 V	SO-14
NCV494	PWM	5 V+	5.0%	0.5 A	Adj	7-40 V	Voltage		♦				♦						42 V	SON-16
NCV8851	Buck	Adj	2.0%	1.5 A	Adj	4.5-40 V	Average Current		♦	♦	♦		♦			♦	●	●	45 V	TSSOP-20

NOTE: Boost converters can be used in a SEPIC topology for applications requiring a higher or lower output voltage.
NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

VOLTAGE SENSING RESET CIRCUITS

Device	Threshold Voltage																		Window Detection	Reference Voltage	Release Current	Sink Current	Quiescent Current (Max)	Peak Transient	Package(s)
	Adj	1.0 V	1.2 V	1.5 V	1.6 V	2.2 V	2.3 V	2.65 V	2.8 V	2.9 V	3.0 V	4.27 V	4.0 V	4.4 V	4.5 V	4.6 V	4.7 V	4.9 V							
NCV300									♦												1.0 mA	0.5 mA	1.3 µA	12 V	TSOP-5
NCV301			♦		♦	♦			♦				♦									0.5 mA	1.3 µA	12 V	TSOP-5
NCV303		♦		♦			♦			♦	♦			♦	♦	♦	♦	♦				0.5 mA	1.4 µA	12 V	TSOP-5
NCV809										♦						♦					0.2 mA	0.5 mA	2.5 µA	6 V	SOT-23
NCV33064																♦						10 mA	500 µA	10 V	SO-8, TO-226AA
NCV33161	♦																		♦	♦		10 mA	700 µA	40 V	SO-8
NCV33164								♦				♦										6.0 mA	40 µA	12 V	SO-8

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

ALTERNATOR VOLTAGE REGULATORS

Device	Darlington Driver	FET Driver	Stator Powerup	Lamp Driver	Flip-Chip	Current Limit	Peak Transient	Package(s)
CS3351	●		●	♦	♦	●	80 V	SO-14
CS3361		●		♦		●	80 V	SO-14

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

DRIVERS

Device	Description	Output Current	$R_{DS(ON)}$ @ 25°C	Sleep Mode	On-Chip Flyback Diode	Active Output Clamp	Parallel Inputs	SPI	Fault Reporting	Undervoltage Lockout	Open Load Detect	Current Limit	Overvoltage	Overtemperature	Low Duty Cycle Overcurrent Mode	Peak Transient	AEC-PPAP	Package(s)[1]
NCV7708A	Double Hex Driver	500 mA	0.8 Ω	♦	♦	♦		♦	♦	♦	♦	●	●	●		40 V	Note 1	SO-28 Fused
NCV1413	Darlington Transistor Array	500 mA	–		♦		♦									50 V	Note 1	SO-16
NCV7601	Quad Driver	600 mA	–		♦	♦	♦					●		●		60 V	Note 1	DIP-16
NCV7702B	Dual Half-Bridge Driver	1 A	–	♦	♦		♦		♦			●	●	●	●	60 V	Note 1	SO-24 Fused
NCV7703	Triple Half-Bridge Driver	500 mA	0.8 Ω	♦				♦	♦	♦	♦	●	●	●		40 V	Note 1	SO-14 Fused
AMIS-39101	Octal High-Side Driver	350 mA	1 Ω	♦		♦	♦	♦	♦	♦	♦	●		●		35 V	Note 2	SO-28
AMIS-39100	Octal High-Side Driver	350 mA	1 Ω	♦		♦	♦	♦	♦	♦	♦	●		●		35 V	Note 2	SO-28

NOTE 1: Devices are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.
NOTE 2: Contact ON Semiconductor for AEC and PPAP status.

PRE-DRIVERS

Device	Description	Output Current	$R_{DS(ON)}$ @ 25°C	Sleep Mode	On-Chip Flyback Diode	Active Output Clamp	Parallel Inputs	SPI	Fault Reporting	Undervoltage Lockout	Open Load Detect	Current Limit	Overvoltage	Overtemperature	Low Duty Cycle Overcurrent Mode	Peak Transient	Package(s)
NCV7512	Quad Low-Side MOSFET Driver	1.9 mA	1.8 kΩ	♦			♦	♦	♦	♦	♦	●				6.5 V	LQFP-32
NCV7513	Hex Low-Side MOSFET Driver	1.9 mA	1.8 kΩ	♦			♦	♦	♦	♦	♦	●				6.5 V	LQFP-32
NCV7517	Hex Low-Side MOSFET Driver	1.9 mA	1.8 kΩ	♦			♦	♦	♦	♦	♦	●				6.5 V	LQFP-32
NCV33152	High Speed Dual MOSFET Drivers	1.5 A	-	♦	♦		♦									20 V	SO-8

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

SENSOR ICs

Device	Description	Dual	Quad	Differential Input	Open Sensor Detect	Dual WATCHDOG	Sensor Input Voltage Range	V_{CC} (Max)	Package(s)
NCV1124	Variable Reluctance Sensor Interface IC	●			♦		-250 to +250 V	7 V	SO-8
NCV7001	Variable Reluctance Sensor Interface IC		●	●	♦	♦	-220 to +220 V	7 V	SO-24

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

MOTOR CONTROL

Device	Description	Interface	P_D Max (W)	I_{out} Max	Peak Transient	3 and 4 Phase Capable	FET Driver	H-Bridge	Undervoltage Lockout	Current Limit Adjust	On-Chip Linear Regulator	Current Limit	Thermal Shutdown	AEC-PPAP	Package(s)
AMIS-30521	Stepper Motor Driver	SPI	1.28	1.6 A				●					●	Note 2	QFP-32
AMIS-30522	Stepper Motor Driver	SPI	1.28	1.6 A				●					●	Note 2	QFP-32
AMIS-30621	Stepper Motor Driver and Controller	LIN		–					♦			●	●	Note 2	SOIC-20, QFP-32
AMIS-30622	Stepper Motor Driver and Controller	I2C		–					♦			●	●	Note 2	SOIC-20, QFP-32
AMIS-30623	Stepper Motor Driver and Controller	LIN	0.32	0.8 A					♦			●	●	Note 2	SOIC-20, QFP-32
AMIS-30624	Stepper Motor Driver and Controller	I2C	0.32	0.8 A					♦			●	●	Note 2	SOIC-20, QFP-32
NCV33033	Brushless DC Motor Controller	–	0.619	100 mA	30 V	●	●	●	♦	♦	♦	●	●	Note 1	SO-20
NCV33035	Brushless DC Motor Controller	–	0.65	40 mA	40 V	●	●	●	♦	♦	♦	●	●	Note 1	SO-24
NCV33039*	Closed Loop Brushless Motor Adapter	–	0.65		8.25 V**									Note 1	SO-8

NOTE 1: Devices are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details. *Intended for use with the NCV33035. **Internal shunt regulator.
NOTE 2: Contact ON Semiconductor for AEC and PPAP status.

OP AMPS & COMPARATORS

Device	Description	Single	Dual	Quad	Response Time	Large Signal Response Time	Input Bias Current	Input Offset Voltage (Max)	Gain/Band-width (MHz)	Quiescent Current	Slew Rate	Peak Transient	Package(s)
NCV2001	Low Voltage, Rail-to-Rail Op Amp	♦			–	–	10 pA	9.5 mV	1.4	1.5 mA	1.6 V/µs	7 V	SOT-23
NCV2002	Low-Voltage, Rail-to-Rail Op Amp with Enable	♦			–	–	10 pA	9.5 mV	0.9	1 mA	1.3 V/µs	7 V	DIP-8
NCV2903	Low Offset Voltage Comparators		♦		1.5 µs	300 ns	25 nA	7 mV	–	2.5 mA	–	36 V	SO-8, Micro8
NCV2904	Operational Amplifier		♦		–	–	45 nA	7 mV	1	3.0 mA	0.6 V/µs	32 V	SO-8
NCV33172	Low Power Op Amp		♦		–	–	5 nA	4.5 mV	1.8	250 µA	2.1 V/µs	22 V	SO-8
NCV33202	Low-Voltage, Rail-to-Rail Op Amp		♦		–	–	100 nA	8 mV	2.2	2.25 mA	1.0 V/µs	13 V	SO-8
NCV33272A	Low Input Offset Voltage Op Amp		♦		–	–	300 nA	3.5 mV	24	12 mA	10 V/µs	36 V	SO-8
NCV2901	Comparator			♦	1.3 µs	300 ns	25 nA	7 mV	–	2.5 mA	–	36 V	SO-14
NCV2902	Operational Amplifier			♦	–	–	90 nA	7 mV	1	3.0 mA	0.6 V/µs	32 V	SO-14
NCV33074A	Supply (3 V to 44 V) Op Amp	♦		♦	–	–	700 nA	5 mV	4.5	11 mA	10 V/µs	44 V	TSSOP-14
NCV33204	Low-Voltage, Rail-to-Rail Op Amp			♦	–	–	100 nA	8 mV	2.2	4.5 mA	1.0 V/µs	13 V	SO-14, TSSOP-14
NCV33274A	Low Input Offset Voltage Op Amp			♦	–	–	300 nA	3.5 mV	24	12 mA	10 V/µs	36 V	SO-14

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

TIMER

Device	Description	Astable	Monostable	Output (Source)	Output (Sink)	Stability	Peak Transient	Package(s)
NCV1455B	Direct NE555 Replacement	●	●	200 mA	200 mA	0.005% per °C	18 V	SO-8

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

CAN TRANSCEIVERS

Device	Description	ISO 11898-2	ISO 11898-3	ISO 11898-5	Sleep Mode Current (Max)	Bus Speed (Max)	ESD Protection (CAN Pin)	AEC-PPAP	Package(s)
AMIS-30660	High Speed CAN Transceiver	♦			N/A*	1 mbps	4 kV	Note 1	SOIC-8
AMIS-30663	High Speed CAN Transceiver	♦			N/A*	1 mbps	8 kV	Note 1	SOIC-8
AMIS-41682	Fault Tolerant CAN Transceiver		♦		60	250 kbps	6 kV	Note 1	SOIC-14
AMIS-41683	Fault Tolerant CAN Transceiver		♦		60	250 kbps	6 kV	Note 1	SOIC-14
AMIS-42665	High Speed, Low Power CAN Transceiver	♦			15	1 mbps	8 kV	Note 1	SOIC-8
AMIS-42668	High Speed, Low Power CAN Transceiver			♦	35	1 mbps		Note 2	SOIC-14
AMIS-42670	High Speed CAN Transceiver for Long Networks	♦			N/A*	1 mbps	4 kV	Note 2	SOIC-8
AMIS-42671	High Speed CAN Transceiver for Long Networks	♦			N/A*	1 mbps	8 kV	Note 2	SOIC-8
AMIS-42673	High Speed CAN Transceiver for Long Networks	♦			N/A*	1 mbps	8 kV	Note 2	SOIC-8
AMIS-42675	High Speed, Low Power CAN Transceiver	♦			15	1 mbps	5 kV	Note 2	SOIC-8
AMIS-42700	Dual High Speed CAN Transceiver	♦			N/A*	1 mbps	4 kV	Note 2	SOIC-20
AMIS-42770	Dual High Speed CAN Transceiver, Long Networks	♦			N/A*	1 mbps	4 kV	Note 2	SOIC-20
NCV7356	Single Wire CAN Transceiver	**			60 µA	40 kbps	4 kV	Note 1	SOIC-8, SOIC-14

NOTE 1: Devices are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details. * Sleep mode not featured/implemented. ** SW-CAN - Not defined in ISO.
NOTE 2: Contact ON Semiconductor for AEC and PPAP status.

LIN TRANSCEIVERS

Device	Bus Speed (Baud)	ISO 9141	LIN 1.3	LIN 2.0	J2602	Sleep Mode Current (µA) Max	Recessive Mode Current (µA) Max	ENABLE	External Regulator Control	Integrated Bus Termination	Overtemperature	Peak Transient	AEC-PPAP	Package(s)
AMIS-30600	20 K	♦		♦		55					♦		Note 1	SOIC-8
AMIS-40615	20 K			♦	♦	20					♦		Note 2	SOIC-14
AMIS-40616	20 K			♦	♦	20					♦		Note 2	SOIC-14
NCV7382	20 K	♦	♦	♦		14		♦	♦	♦	♦	40 V	Note 1	SOIC-8

NOTE 1: Devices are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.
NOTE 2: Contact ON Semiconductor for AEC and PPAP status.

GAUGE DRIVERS

Device	Description	Major Gauge Driver	Minor Gauge Driver	SPI	Frequency to Voltage Converter	Drive Current	Return to Zero	UVLO	Current Limit	Overtemperature	Peak Transient	Package(s)
CS4121	Low Voltage Precision Air-Core Tach/Speedo Driver	●			●	33 mA			●		60 V	DIP-16 Fused, SO-20 Fused
CS4122	Triple Air-Core Gauge Driver with Serial Bus Interface	●	●	●		70 mA			●	●	16.5 V	SO-24 Fused
CS4192	Single Air-Core Gauge Driver with Serial Bus Interface	●		●		80 mA			●	●	16.5 V	SO-16 Fused
CS8190	Precision Air-Core Tach/Speedo Driver with Return to Zero	●			●	33 mA	♦	♦			60 V	DIP-16 Fused, SO-20 Fused

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

LOGIC DEVICES

Family	Device	Description	Operating Voltage (V)	Packages
Metal Gate	MC14021B	8-Bit Static Shift Register	3 to 18	SOIC-16
	MC14040B	12-Bit Binary Counter	3 to 18	SOIC-16
	MC14050B	Hex Buffer	3 to 18	SOIC-16
	MC14051B	Analog Multiplexers/Demultiplexers	3 to 18	SOIC-16
	MC14052B	Analog Multiplexers/Demultiplexers	3 to 18	SOIC-16
	MC14060B	14-Stage Binary Counter/Oscillator	3 to 18	SOIC-16
	MC14066B	Quad Analog Switch/Quad Multiplexer	3 to 18	SOIC-14
	MC14094B	8-Bit Shift/Store Register with Three-State Outputs	3 to 18	SOIC-16
	MC14538B	Dual Precision Monostable Multivibrator	3 to 18	SOIC-16
High Speed CMOS	MC74HC02A	Quad 2-Input NOR Gate	2 to 6	SOIC-14
	MC74HC08A	Quad 2-Input AND Gate	2 to 6	SOIC-14
	MC74HC14A	Hex Schmitt-Trigger Inverter	2 to 6	SOIC-14
	MC74HC74A	Dual D-Type Flip-Flop with Set and Reset	2 to 6	SOIC-14
	MC74HCT74A	Dual D-Type Flip-Flop with Set and Reset	4.5 to 5.5	SOIC-14
	MC74HC132A	Quad 2-Input NAND Schmitt Trigger	2 to 6	SOIC-14
	MC74HC595A	Shift Register 3-State	2 to 6	SOIC-16
	MC74HC4051A	Analog Multiplexers/Demultiplexers	2 to 6	SOIC-16
	MC74HC4052A	Analog Multiplexers/Demultiplexers	2 to 6	SOIC-16
	MC74HC4060A	14-Stage Binary Ripple Counter with Oscillator	2 to 6	SOIC-16
	MC74HC4066A	Quad Analog Switch/Multiplexer/Demultiplexer	2 to 12	SOIC-14
	MC74HC4851A	Analog Multiplexer/Demultiplexer with Injection Current Effect Control	2 to 6	SOIC-16
	MC74HC4852A	Analog Multiplexers/Demultiplexers with Injection Current Effect Control	2 to 6	SOIC-16
Low Voltage	MC74VHCT50A	Non-inverting Buffer / CMOS Logic Level Shifter with LSTTL-Compatible Inputs	4.5 to 5.5	SOIC-14
	MC74VHCT125A	Quad Bus Buffer, 3 State, TTL Level	4.5 to 5.5	SOIC-14
	MC74VHC244	Octal Noninverting Bus Buffer, 3 State	2 to 5.5	TSSOP-20
	MC74LCX245	Low-Voltage CMOS Octal Transceiver	2 to 3.6	TSSOP-20
	MC74LVX4245	Dual Supply Octal Translating Transceiver	2.7 to 3.6	TSSOP-24
MiniGates™	M74VHC1GT125	Single Non Inverting Buffer, 3-State	3 to 5.5	SC-88A, SOT-353, SC-70
	M74VHC1GT50	Single Non Inverting Buffer, TTL Level	1.65 to 5.5	SC-88A, SOT-353, SC-70
	NL17SZU04	Single Unbuffered Inverter	1.65 to 5.5	SC-88A, SOT-353, SC-70
	NL27WZ04	Dual Inverter	1.65 to 5.5	SC-88/SC-70/SOT-363

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

ZENER DIODES

V_Z Typ	200 mW	200 mW	225 mW	500 mW		1.5 W	3 W
Volts	SOD-523	SOD-323	SOT-23	SOD-123		SMA	SMB
4.7	MM5Z4V7	MM3Z4V7	BZX84C4V7L	MMSZ4688	MMSZ5230B	1SMA5917B	1SMB5917B
5.1	MM5Z5V1	MM3Z5V1	BZX84C5V1L	MMSZ4689	MMSZ5231B	1SMA5918B	1SMB5918B
5.6	MM5Z5V6	MM3Z5V6	BZX84C5V6L	MMSZ4690	MMSZ5232B	1SMA5919B	1SMB5919B
6.2	MM5Z6V2	MM3Z6V2	BZX84C6V2L	MMSZ4691	MMSZ5234B	1SMA5920B	1SMB5920B
6.8	MM5Z6V8	MM3Z6V8	BZX84C6V8L	MMSZ4692	MMSZ5235B	1SMA5921B	1SMB5921B
7.5	MM5Z7V5	MM3Z7V5	BZX84C7V5L	MMSZ4693	MMSZ5236B	1SMA5922B	1SMB5922B
8.2	MM5Z8V2	MM3Z8V2	BZX84C8V2L	MMSZ4694	MMSZ5237B	1SMA5923B	1SMB5923B
10	MM5Z10V	MM3Z10V	BZX84C10L	MMSZ4697	MMSZ5240B	1SMA5925B	1SMB5925B
12	MM5Z12V	MM3Z12V	BZX84C12L	MMSZ4699	MMSZ5242B	1SMA5927B	1SMB5927B
13	MM5Z13V	MM3Z13V	BZX84C13L		MMSZ5243B	1SMA5928B	1SMB5928B
14				MMSZ4701	MMSZ5244B		
15	MM5Z15V	MM3Z15V	BZX84C15L	MMSZ4702	MMSZ5245B	1SMA5929B	1SMB5929B
16	MM5Z16V	MM3Z16V	BZX84C16L	MMSZ4703	MMSZ5246B	1SMA5930B	1SMB5930B
17				MMSZ4704	MMSZ5247B		
18	MM5Z18V	MM3Z18V	BZX84C18L	MMSZ4705	MMSZ5248B	1SMA5931B	1SMB5931B
19				MMSZ4706	MMSZ5249B		
20	MM5Z20V	MM3Z20V	BZX84C20L	MMSZ4707	MMSZ5250B	1SMA5932B	1SMB5932B
24	MM5Z24V	MM3Z24V	BZX84C22L	MMSZ4709	MMSZ5252B	1SMA5934B	1SMB5934B
27	MM5Z27V	MM3Z27V	BZX84C27L	MMSZ4711	MMSZ5254B	1SMA5935B	1SMB5935B
30	MM5Z30V		BZX84C30L	MMSZ4713	MMSZ5256B	1SMA5936B	1SMB5936B
33	MM5Z33V	MM3Z33V	BZX84C33L	MMSZ4714	MMSZ5257B	1SMA5937B	1SMB5937B
36	MM5Z36V	MM3Z36V	BZX84C36L	MMSZ4715	MMSZ5258B	1SMA5938B	1SMB5938B
39		MM3Z39V	BZX84C39L		MMSZ5259B	1SMA5939B	1SMB5939B
43		MM3Z43V	BZX84C43L	MMSZ4717	MMSZ5260B	1SMA5940B	1SMB5940B
47			BZX84C47L		MMSZ5261B	1SMA5941B	1SMB5941B

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

DUAL ZENER DIODES

	Device	V_{BR} Typ (V)	V_{RWM} Max (V)	I_R Max (μA)	I_{pp} Max (A)	V_C Max (V)	Package
Common Cathode	MMBZ15VDL	15	12.8	0.1	1.9	21.2	SOT-23
	MMBZ27VCL	27	22	0.05	1	38	
Common Anode	MMBZ5V6AL	5.6	3	5	3	8	
	MMBZ6V2AL	6.2	3	0.5	2.76	8.7	
	MMBZ6V8AL	6.8	4.5	0.5	2.5	9.6	
	MMBZ9V1AL	9.1	6	0.3	1.7	14	
	MMBZ12VAL	12	8.5	0.2	2.35	17	
	MMBZ15VAL	15	12	0.05	1.9	21	
	MMBZ18VAL	18	14.5	0.05	1.6	25	
	MMBZ20VAL	20	17	0.05	1.4	28	
	MMBZ27VAL	27	22	0.05	1	40	
	MMBZ33VAL	33	26	0.05	0.87	46	

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details. **NOTE: I_{PP} Max rating based on 8 x 20 μsec surge waveform.**

TRANSIENT VOLTAGE SUPPRESSORS

	Device	V_{BR} Typ (V)	V_{RWM} Max (V)	I_R Max (µA)	I_{pp} Max (A)	V_C Max (V)	Package
Unidirectional	1SMA16A	18.75	16	2.5	15.4	26	SMA
	1SMA20A	23.35	20	2.5	12.3	32.4	
	1SMA24A	28.1	24	2.5	10.3	38.9	
	1SMA28A	32.75	28	2.5	8.8	45.4	
	1SMA30A	35.05	30	2.5	8.3	48.4	
	1SMA33A	38.65	33	2.5	7.5	53.3	
	1SMA36A	42.1	36	2.5	6.9	58.1	
	1SMA40A	46.75	40	2.5	6.2	64.5	
	1SMA43A	50.3	43	2.5	5.8	69.4	
	P6SMB27A	27	23.1	5	16	37.5	SMB
	P6SMB30A	30	25.6	5	14.4	41.4	
	1SMB26A	30.4	26	5	14.2	42.1	
	P6SMB33A	33	28.2	5	13.2	45.7	
	P6SMB36A	36	30.8	5	12	49.9	
	1SMB33A	38.65	33	5	11.3	53.3	
	P6SMB39A	39	33.3	5	11.2	53.9	
	1SMC22A	25.65	22	5	42.2	35.5	SMC
	1.5SMC27A	27	23.1	5	37.5	37.5	
	1SMC24A	28.1	24	5	38.6	38.9	
	1.5SMC30A	30	25.6	5	41.4	41.4	
	1.5SMC33A	33	28.2	5	45.7	45.7	
	1SMC30A	35.05	30	5	31	48.4	
	1.5SMC36A	36	30.8	5	49.9	49.9	
	1.5SMC39A	39	33.3	5	53.9	53.9	
	1SMC36A	42.1	36	5	25.8	58.1	
	1.5SMC47A	47	40.2	5	64.8	64.8	
	1.5SMC62A	62	53	5	85	85	
Bidirectional	1SMA16CA	18.75	16	2.5		26	SMA
	1SMA24CA	28.1	24	2.5		38.9	
	P6SMB30CA	30	25.6	5		41.4	SMB
	P6SMB36CA	36	30.8	5		49.9	
	1SMB36CA	42.1	36	5		58.1	
	P6SMB43CA	43	36.8	5		59.3	
	1SMB43CA	50.3	43	5		69.4	

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details. NOTE: I_{PP} Max rating based on 10 x 1000 µsec surge waveform.

SCHOTTKY DIODES

Device	V_R (V)	I_F (mA)	C_T Max (pF)	V_F Max (V)	I_R Max (μA)	Type	Package
BAT54	30	200	10	0.32	2	Single	SOD-123
MMSD301	30	200	1.5	0.45	0.2	Single	
BAT54H	30	200	10	0.32	2	Single	SOD-323
MMDL301	30	200	1.5	0.45	0.2	Single	
RB751V40	30	30	2.5	0.37	0.5	Single	
BAS70L	70	70	2	0.41	0.1	Single	SOT-23
BAS40L	40	120	5	0.38	1	Single	
BAS40-04L	40	120	5	0.38	1	Dual Series	
BAS40-06L	40	120	5	0.38	1	Dual Common Anode	
BAT54CL	30	200	10	0.32	2	Dual Common Cathode	
BAT54L	30	200	10	0.32	2	Single	
BAT54AL	30	200	10	0.32	2	Dual Common Anode	
BAT54SL	30	200	10	0.32	2	Dual Series	
BAT54AW	30	200	10	0.32	2	Dual Common Anode	SC-70
BAT54CW	30	200	10	0.32	2	Dual Common Cathode	
BAT54W	30	200	10	0.32	2	Single	
BAT54SW	30	200	10	0.32	2	Dual Series	
MMBD330	30	200	1.5	0.45	0.2	Single	
RB751S40	30	30	2.5	0.37	0.5	Single	SOD-523
BAT54XV2	30	200	10	0.32	2	Single	
RB520S30	30	200		0.6	1	Single	
RB521S30	30	200		0.5	30	Single	
NSRLL30XV2	30	200	10	0.6	1	Single	
NSR0140P2	30	70	2.5	0.35	0.5	Single	SOD-923
NSR0240P2	40	200	7	0.46	0.2	Single	

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

SWITCHING DIODES

Device	V_R Min (V)	I_R Max (μA)	V_F Max (V)	C_T Max (pF)	t_{rr} Max (ns)	Type	Package
BAV199L	70	0.005	1	2		Dual Series	SOT-23
BAL99L	70	2.4	1	1.5	6	Single	
BAV99L	70	2.4	1	1.5	6	Dual Series	
BAW56L	70	2.4	1	2	6	Dual Common Anode	
BAV70L	70	2.5	1	1.5	6	Dual Common Cathode	
MMBD914L	100	5	1	4	4	Single	
BAS20L	200	0.1	1	5	50	Single	
BAS21L	250	0.1	1	5	50	Single	
BAS21SL	250	1	1	5	50	Single	
BAV99W	70	2.4	1	1.5	6	Dual Series	SC-70
BAV99RW	70	2.5	1	1.5	6	Dual Series	
BAW56W	70	2.5	1	2	6	Dual Common Anode	
BAV70W	70	5	1	1.5	6	Dual Common Cathode	
MMSD4148	100	5	1	4	4	Single	SOD-123
MMSD914	100	5	1	4	4	Single	
MMSD103	250	1	1	5	50	Single	
MMDL914	100	5	1	4	4	Single	SOD-323
BAS20H	200	0.1	1	5	50	Single	
BAS21AH	250	0.04	1	5	50	Single	
BAS21H	250	1	1	5	50	Single	
BAV70T	70	5	1	1.5	6	Dual Common Cathode	SC-75
BAS21DW5	250	0.1	1	5	50	Dual Isolated	SC-88A

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

BIAS RESISTOR TRANSISTORS (BRTs)

	NPN Device	PNP Device	$V_{(BR)CEO}$ Min (V)	I_C Max (mA)	h_{FE} Min	R1 (Ω)	R2 (Ω)	Package
Single	MUN2211	MUN2111	50	100	35	10k	10k	SC-59
	MUN2233		50	100	80	47k	47k	
	MMUN2211L	MMUN2111L	50	100	35	10k	10k	SOT-23
	MMUN2213L	MMUN2113L	50	100	80	47k	47k	
	MMUN2214L	MMUN2114L	50	100	80	10k	47k	
	MMUN2216L	MMUN2116L	50	100	160	4.7k	∞	
	MUN5211	MUN5111	50	100	35	10k	10k	SC-70
	MUN5230		50	100	3	1k	1k	
Dual	MUN5214DW1	MUN5114DW1	50	100	80	10k	47k	SC-88
	MUN5230DW1		50	100	3	1k	1k	
	MUN5233DW1	MUN5133DW1	50	100	80	4.7k	47k	
	MUN5235DW1	MUN5135DW1	50	100	80	2.2k	47k	

	Device	Type	$V_{(BR)CEO}$ Min (V)	I_C Max (mA)	h_{FE} Min	R1 (Ω)	R2 (Ω)	Package
Combinational	MUN5311DW1	Dual Complementary	50	100	35	10k	10k	SC-88
	MUN5314DW1	Dual Complementary	50	100	80	10k	47k	
	UMC5N	Dual Common Base Collector	50	100	20	4.7k	10k	

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

SMALL SIGNAL BIPOLAR TRANSISTORS

NPN	PNP	$V_{(BR)CEO}$ Min (V)	I_C Max (A)	h_{FE} Min	h_{FE} Max	f_T Min (MHz)	Package
MMBTA42L		300	0.05	40		50	SOT-23
	MMBTA92L	300	0.5	25		50	
MMBT5551L		160	0.6	80	250		
	MMBT5401L	150	0.5	60	240	100	
MMBTA06L	MMBTA56L	80	0.5	100			
BC846AL		65	0.1	110	220	100	
BC846BL		65	0.1	200	450	100	
	BC856AL	65	0.1	125	250	100	
	BC856BL	65	0.1	220	475	100	
	MMBT2907AL	60	0.6	50	300	200	
MMBT6428L		50	0.2	250	650	100	
BC817-16L	BC807-16L	45	0.5	100	250	100	
BC817-25L	BC807-25L	45	0.5	160	400	100	
BC817-40L	BC807-40L	45	0.5	250	600	100	
BC847AL		45	0.1	110	220	100	
BC847BL		45	0.1	200	450	100	
BC847CL		45	0.1	420	800	100	
BC850BL		45	0.1	200	450	100	
BC850CL		45	0.1	420	800	100	
	BC857AL	45	0.1	125	250	100	
	BC857BL	45	0.1	220	475	100	
	BC857CL	45	0.1	420	800	100	
BCX19L		45	0.5	100	600		
MMBT2222AL		40	0.6	100	300	300	
MMBT3904L		40	0.2	100	300	300	
	MMBT3906L	40	0.2	100	300	250	
MMBT4401L		40	0.6	100	300	250	
	MMBT4403L	40	0.6	100	300	200	
	MMJT350	300	0.5	30	240		SOT-223
PZTA42	PZTA92	300	0.5	25		50	
BCP56	BCP53	80	1.5	40	250		
BCP56-10	BCP53-10	80	1.5	63	160		
BCP56-16	BCP53-16	80	1.5	100	250		
	PZT2907A	60	0.6	100	300	200	
PZT651	PZT751	60	2	40		75	
PZT2222A		40	0.6	100	300	300	
PZT3904		40	0.2	100	300	300	

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

DARLINGTON TRANSISTORS

NPN	PNP	$V_{(BR)CEO}$ Min (V)	I_C Max (mA)	h_{FE} Min	h_{FE} Max	f_T Min (MHz)	Package
MPSA29		0.5	100	10k		125	TO-92
BC372		1	100	10k	160k	100	
MJD112	MJD117	2	100	1k	12k	25	DPAK
MJD122	MJD127	8	100	1k	12k	4	
MJD44E3		10	80	1k			
BUB323Z		10	350	500	3400	2	D2PAK

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

LOW SATURATION VOLTAGE TRANSISTORS

	NPN	PNP	$V_{(BR)CEO}$ Min (V)	I_C Peak Max (mA)	h_{FE} Min	h_{FE} Max	f_T Min (MHz)	$V_{CE(sat)}$ @ 1.0 A Max (V)	Package
Single	NSS1C201L		100	3	120	360	100	0.105	SOT-23
		NSS1C200L	100	3	120	360	100	0.115	
	NSS60201L		60	4	200	500	150	0.07	
		NSS60200L	60	4	200	500	100	0.095	
	NSS40201L		40	4	200	500	150	0.06	
		NSS40200L	40	4	250	500	100	0.095	
	NSS1C210MZ4		100	3	100	300	100	0.12	SOT-223
		NSS1C200MZ4	100	3	100	300	100	0.14	
	NSS60601MZ4		60	12	120	360	100	0.06	
		NSS60600MZ4	60	12	120	360	100	0.07	
	NSS40301MZ4		40	5	200	500	200	0.05	
		NSS40300MZ4	40	5	200	500	100	0.05	
	NSS40601CF8		40	7	200	500	100	0.1	ChipFET
		NSS40600CF8	40	7	200	500	100	0.1	
Dual	NSS40301MD08		40	4	200	500	100	0.06	SOIC-8
		NSS40300MD08	40	4	200	500	100	0.08	

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

BIPOLAR POWER TRANSISTORS

NPN	PNP	I_C Max (mA)	$V_{(BR)CEO}$ Min (V)	h_{FE} Min	h_{FE} Max	f_T Min (MHz)	P_D Watts	Package
NJD2873		2	50	120	360	65	12.5	DPAK
MJD31C	MJD32C	3	100	10	50	3	15	
MJD148		4	45	85	375	3	20	
MJD41C	MJD42C	6	100	15	75	3	20	
MJD44H11	MJD45H11	8	80	60			20	
MJD3055	MJD2955	10	60	20	100	2	20	
MJB41C	MJB42C	6	100	15	75	3	65	D2PAK
MJB44H11	MJB45H11	8	80	60			50	

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.

ULTRAFAST RECTIFIERS

Device	V_{RRM} Max (V)	$I_{O(rec)}$ Max (A)	V_{FM} Max (V)	I_R Max (mA)	I_{FSM} Max (A)	t_{rr} Max (ns)	AEC-PPAP	Package
MURS120T3G	200	1	0.875	0.002	40	35	Note 1	SMB
MURA220T3G	200	2	0.95	0.002	40	35	Note 1	SMA
MURS220T3G	200	2	0.95	0.002	40	25	Note 1	SMB
MURD320T4G	200	3	0.95	0.5	75	35	Note 1	DPAK-4
MURS320T3G	200	3	0.875	0.005	75	35	Note 2	SMC
MURD620CTT4G	200	6	1.2	0.005	63	35	Note 1	DPAK-4
MURB1620CTRT4G	200	16	1.2	0.005	100	85	Note 1	D2PAK-3
MURB1620CTT4G	200	16	0.975	0.005	100	35	Note 1	D2PAK-3
MURF1620CTG	200	16	0.975	0.005	100	25	Note 2	TO-220 FP
MURA140T3G	400	1	1.1	0.005	35	65	Note 1	SMA
MURS160T3G	600	1	1.25	0.005	35	75	Note 2	SMB
MURS360T3G	600	3	1.25	0.01	75	75	Note 2	SMC

NOTE 1: Devices are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.
NOTE 2: Contact ON Semiconductor for AEC and PPAP status.

SCHOTTKY RECTIFIERS

Device	V_{RRM} Min (V)	$I_{O(rec)}$ Max (A)	V_F Max (V)	I_{RM} Max (μA)	I_{FSM} Max (A)	AEC-PPAP	Package
MBRD620CTT4G	20	6	0.9	100	75	Note 1	DPAK-4
MBR0530T1G	30	0.5	0.43	130	5.5	Note 1	SOD-123
MBRS130LT3G	30	1	0.395	1000	40	Note 1	SMB
MBRD1035CTLT4G	35	10	0.56	2000	50	Note 1	DPAK-4
MBR140SFT1G	40	1	0.55	500	30	Note 1	SOD-123 FL
MBRS140T3G	40	1	0.6	1000	40	Note 1	SMB
MBRA340T3G	40	3	0.45	300	100	Note 1	SMA
MBRD340T4G	40	3	0.6	200	75	Note 1	DPAK-4
MBRS340T3G	40	3	0.5	2000	80	Note 1	SMC
MBRD640CTT4G	40	6	0.9	100	75	Note 1	DPAK-4
MBRB1045T4G	45	10	0.84	100	150	Note 1	D2PAK-3
MBRB1545CTT4G	45	15	0.84	100	150	Note 1	D2PAK-3
MBRB2545CTT4G	45	30	0.82	200	150	Note 2	D2PAK-3
MBRS360T3G	60	3	0.74	150	125	Note 1	SMC
MBRS190T3G	90	1	0.75	500	50	Note 1	SMB
MBRS1100T3G	100	1	0.75	500	50	Note 1	SMB
MBRS2H100T3G	100	2	0.79	8	130	Note 1	SMB
MBRD5H100T4G	100	5	0.71	3.5	105	Note 2	DPAK-4
MBRB8H100T4G	100	8	0.71	4.5	250	Note 2	D2PAK-3
MBRB20100CTT4G	100	20	0.95	100	150	Note 2	D2PAK-3
MBRS3200T3G	200	3	0.84	1000	100	Note 1	SMB
MBRS3201T3G	200	3	0.84	1000	100	Note 1	SMC
MBRS4201T3G	200	4	0.8	0.35	100	Note 2	SMC
MBRB20200CTT4G	200	20	1	1000	150	Note 2	D2PAK-3

NOTE 1: Devices are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.
NOTE 2: Contact ON Semiconductor for AEC and PPAP status.

MOSFETs

Device	Polarity	Configuration	$V_{(BR)DSS}$ Min (V)	$R_{DS(ON)}$ Max (mΩ)	Q_g Typ (nC)	I_D Max (A)	P_D Max (W)	AEC-PPAP	Package
NTMS4807NR2G	N Channel	Single	30	6.1	24	12.2	0.86	Note 2	SOIC-8
NTMS4816NR2G	N Channel	Single	30	10	9.2	9	1.37	Note 2	SOIC-8
NTMS4872NR2G	N Channel	Single	30	13.5	10	10.2	2.4	Note 2	SOIC-8
MGSF1N03LT1G	N Channel	Single	30	100	–	1.6	0.42	Note 1	SOT-23
MGSF1N03LT3G	N Channel	Single	30	100	–	1.6	0.42	Note 1	SOT-23
NTA7002NT1G	N Channel	Single	30	7000	–	0.154	0.3	Note 1	SC-75
NTB75N03L09T4G	N Channel	Single	30	80	57	75	150	Note 1	D2PAK-3
NTD20N03L27T4G	N Channel	Single	30	27	13.8	20	74	Note 1	DPAK-4
NTD4302T4G	N Channel	Single	30	10	55	18.5	5	Note 1	DPAK-4
NTD4804NT4G	N Channel	Single	30	4	30	117	93.75	Note 2	DPAK-4
NTD4805NT4G	N Channel	Single	30	5	20.5	88	66	Note 2	DPAK-4
NTD4806NT4G	N Channel	Single	30	6	15	76	60	Note 2	DPAK-4
NTD4808NT4G	N Channel	Single	30	8	11.3	63	54.6	Note 2	DPAK-4
NTD4809NHT4G	N Channel	Single	30	9	12.5	58	52	Note 2	DPAK-4
NTD4809NT4G	N Channel	Single	30	9	11	58	52	Note 2	DPAK-4
NTD4810NT4G	N Channel	Single	30	10	9.2	54	50	Note 2	DPAK-4
NTD4813NHT4G	N Channel	Single	30	13	7.1	40	35.3	Note 2	DPAK-4
NTD4813NT4G	N Channel	Single	30	13	6.9	40	35.3	Note 2	DPAK-4
NTD4815NHT4G	N Channel	Single	30	13	6.4	35	32.6	Note 2	DPAK-4
NTD4815NT4G	N Channel	Single	30	15	6	35	32.6	Note 2	DPAK-4
NTMS4705NR2G	N Channel	Single	30	10	11	12	2.3	Note 2	SOIC-8
NTMS4706NR2G	N Channel	Single	30	12	10	10.3	2.2	Note 2	SOIC-8
NTMS7N03R2G	N Channel	Single	30	23	26	7	2.5	Note 2	SOIC-8
NTMSD6N303R2G	N Channel	Single	30	32	19	6	2	Note 2	SOIC-8
NTP75N03L09G	N Channel	Single	30	8	57	75	150	Note 1	TO-220
NTR4003NT1G	N Channel	Single	30	1500	1.15	0.56	0.83	Note 1	SOT-23
NTR4003NT3G	N Channel	Single	30	1500	1.15	0.56	0.83	Note 1	SOT-23
NTR4503NT1G	N Channel	Single	30	140	3.6	2.5	0.73	Note 1	SOT-23
NTS4001NT1G	N Channel	Single	30	1500	0.9	0.27	0.33	Note 1	SC-70
NTJD4001NT2G	N Channel	Dual	30	1500	0.9	0.25	0.272	Note 1	SC-88/SC-70/SOT-363
NTMD4820NR2G	N Channel	Dual	30	20	7.7	6.4	1.28	Note 2	SOIC-8
NTMD4840NR2G	N Channel	Dual	30	24	5.2	5.5	1.14	Note 2	SOIC-8
NTJD4001NT1G	N Channel	Dual	30	1500	0.9	0.25	0.272	Note 1	SC-88/SC-70/SOT-363
NTMD4N03R2G	N Channel	Dual	30	60	8	4	2	Note 2	SOIC-8
NTMD6N03R2G	N Channel	Dual	30	32	19	6	2	Note 2	SOIC-8
MTB50P03HDLT4G	P Channel	Single	30	25	74	50	125	Note 1	D2PAK-3
NTD25P03LT4G	P Channel	Single	30	72	15	25	75	Note 1	DPAK-4
NTF5P03T3G	P Channel	Single	30	100	15	5	3.13	Note 1	SOT-223
NTGS3455T1G	P Channel	Single	30	100	9	3.5	2	Note 1	TSOP-6
NTMS3P03R2G	P Channel	Single	30	85	16	3.05	1.25	Note 2	SOIC-8
NTR4502PT1G	P Channel	Single	30	200	6	1.95	1.25	Note 1	SOT-23
NTR4502PT3G	P Channel	Single	30	200	6	1.95	1.25	Note 1	SOT-23
NTMD3P03R2G	P Channel	Dual	30	85	16	3.05	2	Note 2	SOIC-8
NTB5404NT4G	N Channel	Single	40	4.5	125	136	167	Note 1	D2PAK-3
NTB5405NT4G	N Channel	Single	40	5.8	88	116	150	Note 1	D2PAK-3
NTD5406NT4G	N Channel	Single	40	10	45	70	100	Note 1	DPAK-4
NTD5407NT4G	N Channel	Single	40	26	20	38	75	Note 1	DPAK-4
NTMD6N04R2G	N Channel	Dual	40	0.034	20	4.6	2	Note 2	SOIC-8
BSS138LT1G	N Channel	Single	50	3500	–	0.2	0.225	Note 1	SOT-23
BSS138LT3G	N Channel	Single	50	3500	–	0.2	0.225	Note 1	SOT-23

NOTE 1: Devices are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.
NOTE 2: Contact ON Semiconductor for AEC and PPAP status.

MOSFETs

Device	Polarity	Configuration	$V_{(BR)DSS}$ Min (V)	$R_{DS(ON)}$ Max (mΩ)	Q_g Typ (nC)	I_D Max (A)	P_D Max (W)	AEC-PPAP	Package
BSS84LT1G	P Channel	Single	50	10000	–	0.13	0.225	Note 1	SOT-23
2N7002LT1G	N Channel	Single	60	7500	–	0.115	0.3	Note 1	SOT-23
2N7002LT3G	N Channel	Single	60	7500	–	0.115	0.3	Note 1	SOT-23
BS170G	N Channel	Single	60	5000	–	0.5	0.35	Note 1	TO-92
MMBF170LT1G	N Channel	Single	60	5000	–	0.5	0.225	Note 1	SOT-23
MMBF170LT3G	N Channel	Single	60	5000	–	0.5	0.225	Note 1	SOT-23
MMFT960T1G	N Channel	Single	60	1700	3.2	0.3	0.8	Note 1	SOT-223
NTB18N06LT4G	N Channel	Single	60	100	7.3	15	48.4	Note 1	D2PAK-3
NTB30N06LT4G	N Channel	Single	60	46	16	30	88.2	Note 1	D2PAK-3
NTB45N06LT4G	N Channel	Single	60	28	23	45	125	Note 1	D2PAK-3
NTB45N06T4G	N Channel	Single	60	26	33	45	125	Note 1	D2PAK-3
NTB60N06LT4G	N Channel	Single	60	16	43.2	60	136.4	Note 1	D2PAK-3
NTB60N06T4G	N Channel	Single	60	14	62	60	136.4	Note 1	D2PAK-3
NTB75N06T4G	N Channel	Single	60	9.5	92	75	214	Note 1	D2PAK-3
NTD18N06LT4G	N Channel	Single	60	65	11	18	55	Note 1	DPAK-4
NTD18N06T4G	N Channel	Single	60	60	15.3	18	55	Note 1	DPAK-4
NTD20N06LT4G	N Channel	Single	60	48	16.6	20	60	Note 1	DPAK-4
NTD20N06T4G	N Channel	Single	60	46	21.2	20	60	Note 1	DPAK-4
NTD24N06LT4G	N Channel	Single	60	45	16	24	62.5	Note 2	DPAK-4
NTD24N06T4G	N Channel	Single	60	42	24	24	62.5	Note 2	DPAK-4
NTD3055-094T4G	N Channel	Single	60	94	10.9	12	48	Note 1	DPAK-4
NTD3055-150T4G	N Channel	Single	60	150	7.1	9	28.8	Note 1	DPAK-4
NTD3055L104T4G	N Channel	Single	60	104	7.4	12	48	Note 1	DPAK-4
NTD3055L170T4G	N Channel	Single	60	170	4.7	9	28.8	Note 1	DPAK-4
NTD32N06LT4G	N Channel	Single	60	28	23	32	93.75	Note 1	DPAK-4
NTD32N06T4G	N Channel	Single	60	26	33	32	93.75	Note 1	DPAK-4
NTF3055-100T1G	N Channel	Single	60	100	10.6	3	2.1	Note 1	SOT-223
NTF3055-100T3G	N Channel	Single	60	100	10.6	3	2.1	Note 1	SOT-223
NTF3055L108T1G	N Channel	Single	60	120	7.6	3	2.1	Note 1	SOT-223
NTF3055L108T3G	N Channel	Single	60	120	7.6	3	2.1	Note 1	SOT-223
NTF3055L175T1G	N Channel	Single	60	175	5.1	2	2.1	Note 1	SOT-223
NTP18N06G	N Channel	Single	60	90	12	15	48.4	Note 1	TO-220
NTP18N06LG	N Channel	Single	60	100	7.3	15	48.4	Note 1	TO-220
NTP27N06G	N Channel	Single	60	46	21.2	27	88.2	Note 1	TO-220
NTP30N06LG	N Channel	Single	60	46	16	30	88.2	Note 1	TO-220
NTP45N06G	N Channel	Single	60	26	33	45	125	Note 1	TO-220
NTP45N06LG	N Channel	Single	60	28	23	45	125	Note 1	TO-220
NTP60N06G	N Channel	Single	60	14	62	60	150	Note 1	TO-220
NTP60N06LG	N Channel	Single	60	16	43.2	60	136.4	Note 1	TO-220
NTP75N06G	N Channel	Single	60	9.5	92	75	214	Note 1	TO-220
MTB30P06VT4G	P Channel	Single	60	80	54	30	125	Note 1	D2PAK-3
MTD5P06VT4G	P Channel	Single	60	450	12	5	40	Note 1	DPAK-4
NTB25P06T4G	P Channel	Single	60	82	33	27.5	120	Note 1	D2PAK-3
NTB5605PT4G	P Channel	Single	60	140	13	18.5	88	Note 1	D2PAK-3
NTD20P06LT4G	P Channel	Single	60	150	15	15.5	65	Note 1	DPAK-4
NTD2955T4G	P Channel	Single	60	180	15	12	55	Note 1	DPAK-4
NTF2955T1G	P Channel	Single	60	170	14.3	2.6	1	Note 1	SOT-223
NTP2955G	P Channel	Single	60	196	14	12	2.4	Note 1	TO-220
NTMD3N08LR2	N Channel	Dual	80	215	5.1	2.3	3.1	Note 2	SOIC-8
BSS123LT1G	N Channel	Single	100	6000	–	0.17	0.225	Note 1	SOT-23

NOTE 1: Devices are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.
NOTE 2: Contact ON Semiconductor for AEC and PPAP status.

MOSFETs

Device	Polarity	Configuration	$V_{(BR)DSS}$ Min (V)	$R_{DS(ON)}$ Max (mΩ)	Q_g Typ (nC)	I_D Max (A)	P_D Max (W)	AEC-PPAP	Package
NTB13N10T4G	N Channel	Single	100	165	14	13	64.7	Note 1	D2PAK-3
NTB52N10T4G	N Channel	Single	100	30	72	52	178	Note 1	D2PAK-3
NTD12N10T4G	N Channel	Single	100	165	14	12	56.6	Note 1	DPAK-4
NTD6600NT4G	N Channel	Single	100	146	11.3	12	56.6	Note 1	DPAK-4
NTP52N10G	N Channel	Single	100	30	72	60	214	Note 1	TO-220
NTY100N10G	N Channel	Single	100	11	200	100	300	Note 1	TO-3PBL
MTD6N15T4G	N Channel	Single	150	300	15	6	20	Note 1	DPAK-4
NTB35N15T4G	N Channel	Single	150	50	70	37	178	Note 1	D2PAK-3
BS107G	N Channel	Single	200	14000	–	0.25	0.35	Note 1	TO-92
BS108G	N Channel	Single	200	10000	–	0.25	0.35	Note 1	TO-92
NTB30N20T4G	N Channel	Single	200	81	75	30	214	Note 1	D2PAK-3

NOTE 1: Devices are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.
NOTE 2: Contact ON Semiconductor for AEC and PPAP status.

Self-Protected MOSFETs

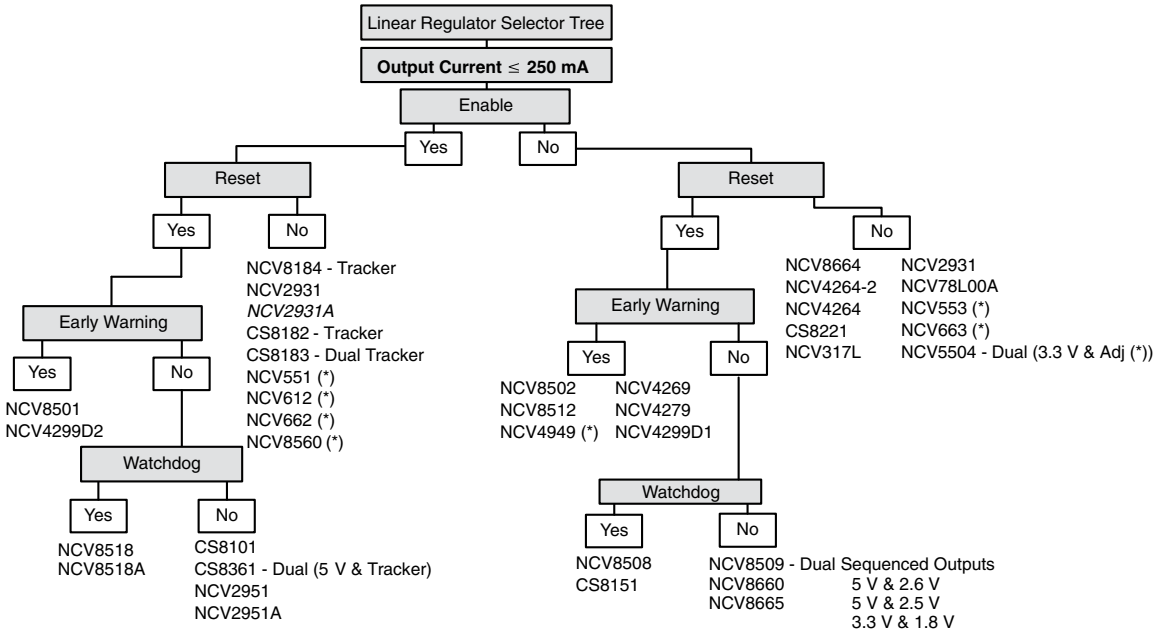
Type	Device	Clamp V_{DSS} (V) (Typ)	$R_{DS(ON)}$ V_{GS}=10 V @ 25°C (mΩ)	Thermal Protect V_{GS} = 5 V off	ID Limit V_{GS}=5 V; 25°C/150°C (Typ)	ESD (HBM)	Single Pulse Available Energy	AEC-PPAP	Package
Clamping FETs	NID9N05CL	55	90	N	N	5 kV	160 mJ	Note 1	DPAK-4
	NIF9N05CL	55	107	N	N	5 kV	110 mJ	Note 2	SOT-223
Low Side Smart FETs	NIF62514	46	90	175°C	8 / 5 A	4 kV	300 mJ	Note 1	SOT-223
	NID5001N	46	23	175°C	36 / 22 A	4 kV	1215 mJ	Note 1	DPAK-4
	NIF5002N	46	165	175°C	5 / 2.5 A	4 kV	150 mJ	Note 2	SOT-223
	NIF5003N	46	53	175°C	18 /13 A	4 kV	400 mJ	Note 2	SOT-223
	NID5003N	46	38	175°C	18 /13 A	4 kV	600 mJ	Note 1	DPAK-4
	NID6002N	64	220	175°C	8 A	8 kV	143 mJ	Note 1	DPAK-4
	NID5004N	42	144	175°C	7 A	4 kV	143 mJ	Note 1	DPAK-4

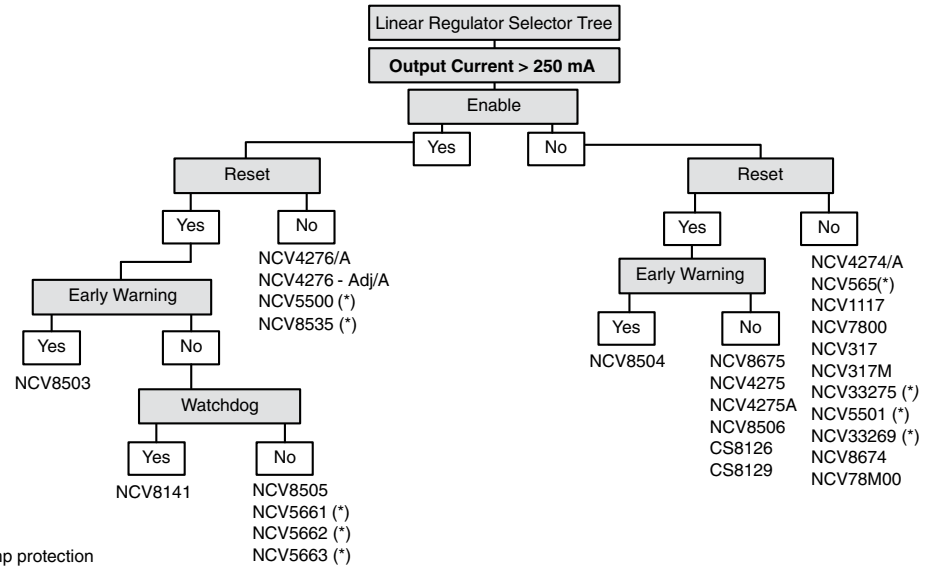
NOTE 1: Devices are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details.
NOTE 2: Contact ON Semiconductor for AEC and PPAP status.

IGBTs

Device	Current	Clamp Voltage	$V_{ce(on)}$ @ I_C = 10A V_{ge} = 4.5 V; T_j = 25°C	Logic Level	ESD protected	Hi Pulse Current Capability	Package
NGB18N40CLBT4G	18 A	400 V	2.0 V	yes	yes	yes	D2PAK
NGB8202NT4G	20 A	400 V	1.3 V	yes	yes	yes	D2PAK
NGB8204NT4G	18 A	400 V	2.0 V	yes	yes	yes	D2PAK
NGB15N41CLT4G	15 A	410 V	2.1 V	yes	yes	yes	D2PAK
NGB8206NT4G	20 A	350 V	1.3 V	yes	yes	Yes	D2PAK
NGB8207NT4G	20 A	360 V	1.5 V	Yes	Yes	Yes	D2PAK
NGD8201NT4G	20 A	400 V	1.3 V	yes	yes	yes	DPAK
NGD8205NT4G	20 A	350 V	1.3 V	yes	yes	yes	DPAK
NGD18N40CLBT4G	18 A	400 V	2.0 V	Yes	Yes	Yes	DPAK

NOTE: All devices in this table are AEC-Qualified and PPAP-Capable. Contact ON Semiconductor for details. ‡ See data sheet for details.





(*) No load dump protection

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