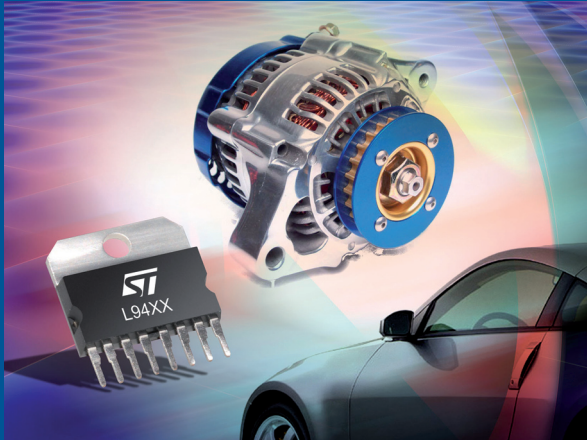


Alternator regulators

L94xx family: a full choice of stable, well-proven regulators to cover all car manufacturers, from OEM to after-market



L94xx devices are monolithic, multifunction alternator voltage regulators intended for use in automotive applications. All devices include the control section, the field power stage, fault diagnostic circuit which drives a warning lamp, and protection against short circuiting. With the exception of L9480, all devices feature load response control, regulating soft-start (always activated at engine start) and soft-attack characteristics.

All devices are designed in **STMicroelectronics'** BCD proprietary technology, have been widely present on the market for 10 years, and provide maximum flexibility to suit the different regulation standards of each car manufacturer.

L94xx family

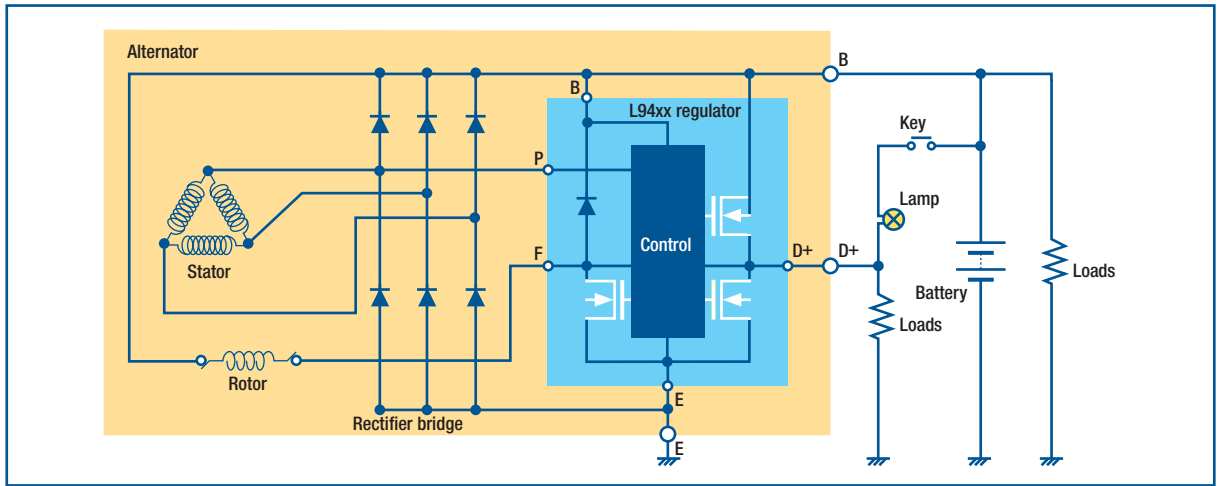
General features:

- Fully monolithic design
- High side field driver down to 0.17Ω at 130°C
- Load response control function
- Field monitor output
- Battery voltage sensing
- Complete diagnostics
- Low-side lamp driver
- High-side relay driver
- Withstand $\pm 4\text{kV}$ ESD human body model
- Packages available: MW8, TO3 and bare die

Specific features:

- L9473, L9484: externally adaptable regulation curve
- L9472: two different regulation curves selectable by external pin
- L9407, L9408, L9480: low-side field driver

L94xx: multifunction alternator regulator – typical application



The diagram above shows a typical application for an L94xx device.
Field driver is in low-side configuration for L9407, L9408 and L9480 devices.

L94xx: family product selector

Macro function	Sales type	Package	Reg curve	Field driver	Worst case Ron (mΩ)	Battery sense	Field monitor	LRC frequency	LRC delay/time	Drivers	Car maker	Others
Mono function Vreg	L9480	T0220, DIE	Single slope, 3 options: -4/-6/-10mV/°C	LS	500	N	N	No LRC	No LRC	N	After-market – Europe	Vreg slopes: -4/-6/-10mV/°C
Multifunction high-side driver	L9460	MW8	Single slope: -8mV/°C	HS	170	Y	Y	310Hz	0s/10s	Lamp	US	
	L9462N	MW8	NAO profile	HS	170	Y	Y	310Hz	0s/10s	Lamp	GM group	Slopes: -12/-15/-6mV/°C
	L9465N	MW8	FLAT	HS	170	Y	Y	310Hz	0s/2.5s	Lamp	BMW, US	Battery in trunk
	L9468N	MW8	NAO profile	HS	170	Y	Y	310Hz	0s/2.5s	Lamp	GM group	Slopes: -12/-15/-6mV/°C
	L9466N	MW8	NAO profile	HS	170	Y	Y	310Hz	2s/10s	Lamp/Relay	Opel	Slopes: -12/-15/-6mV/°C Auto start, Soft start
	L9473J	MW8	Single slope: -2.5mV/°C, trim by ext NTC	HS	170	N	Y	310Hz	3s/10s	Lamp/Relay	DC	External NTC, Auto start, Soft start
	L9484	MW8	Single slope: -2.5mV/°C, trim by ext NTC	HS	170	N	Y	310Hz	2s/2.5s	Lamp/Relay	VW, Fiat, PSA	External NTC, Auto start, Soft start
	L9409F	MW8	3-slope: flat, -10mV/°C, flat	HS	170	Y	Y	310Hz	2.5s/2.5s	Lamp/Relay	VW, Isuzu	
Multifunction low-side driver	L9407F	MW8	2-slope: flat, -3.5mV/°C	LS	200	N	Y	400Hz	0s/3s	Lamp/Relay	PSA, Volvo, VW	
	L9408F	T03, DIE	Single slope: -3mV/°C	LS	200	N	Y	310Hz	2s/2.5s	Lamp/Relay	PSA, Fiat	



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