## **RF Power MOSFET Transistor** 80W, 2-175MHz, 28V

#### Features

- N-Channel enhancement mode device .
- DMOS structure
- Lower capacitances for broadband operation
- High saturated output power
- Lower noise figure than bipolar devices

#### ABSOLUTE MAXIMUM RATINGS AT 25° C

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V <sub>DS</sub>	65	V
Gate-Source Voltage	$V_{GS}$	20	V
Drain-Source Current	I <sub>DS</sub>	16	А
Power Dissipation	PD	206	W
Junction Temperature	TJ	200	°C
Storage Temperature	T <sub>STG</sub>	-65 to +150	°C
Thermal Resistance	$\theta_{JC}$	0.85	°C/W

#### **TYPICAL DEVICE IMPEDANCE**

F (MHz)	Z <sub>IN</sub> (Ω)	Z <sub>LOAD</sub> (Ω)			
30	5.4 - j4.4	5.7 +j4.7			
50	2.5 - j4.4	3.4 + j3.5			
100	1.6 - j3.4	2.4 + j2.4			
175	0.7 - j1.2	1.7 + j0.8			
$V_{DD}$ = 28V, $I_{DQ}$ = 400mA, $P_{OUT}$ = 80 W					

Z<sub>IN</sub> is the series equivalent input impedance of the device from gate to source.

ZLOAD is the optimum series equivalent load impedance as measured from drain to ground.

ELECTRICAL CHARACTERISTIC	CS AT 25°C				L .10 .15 .004 .006	
Parameter	Symbol	Min	Мах	Units	Test Conditions	
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	65	-	V	V <sub>GS</sub> = 0.0 V , I <sub>DS</sub> = 20.0 mA	
Drain-Source Leakage Current	I <sub>DSS</sub>	-	4.0	mA	$V_{GS}$ = 28.0 V , $V_{GS}$ = 0.0 V	
Gate-Source Leakage Current	I <sub>GSS</sub>	-	4.0	μA	$V_{GS}$ = 20.0 V , $V_{DS}$ = 0.0 V	
Gate Threshold Voltage	V <sub>GS(TH)</sub>	2.0	6.0	V	V <sub>DS</sub> = 10.0 V , I <sub>DS</sub> = 400.0 mA	
Forward Transconductance	G <sub>M</sub>	2.0	-	S	$V_{DS}$ = 10.0 V , $I_{DS}$ = 4.0 A , $\Delta$ $V_{GS}$ = 1.0V, 80 $\mu s$ Pulse	
Input Capacitance	C <sub>ISS</sub>	-	180	pF	V <sub>DS</sub> = 28.0 V , F = 1.0 MHz	
Output Capacitance	C <sub>OSS</sub>	-	160	pF	V <sub>DS</sub> = 28.0 V , F = 1.0 MHz	
Reverse Capacitance	C <sub>RSS</sub>	-	32	pF	V <sub>DS</sub> = 28.0 V , F = 1.0 MHz	
Power Gain	G <sub>P</sub>	13	-	dB	$V_{DD}$ = 28.0 V, $I_{DQ}$ = 400 mA, $P_{OUT}$ = 80.0 W F =175 MHz	
Drain Efficiency	ŋ <sub>D</sub>	60	-	%	$V_{DD}$ = 28.0 V, $I_{DQ}$ = 400 mA, $P_{OUT}$ = 80.0 W F =175 MHz	
Load Mismatch Tolerance	VSWR-T	-	30:1	-	$V_{DD}$ = 28.0 V, $I_{DQ}$ = 400 mA, $P_{OUT}$ = 80.0 W F =175 MHz	

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Vipical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

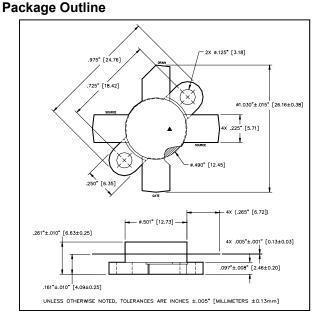
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LETTER	MILLIM	IETERS	INCHES		
DIM	MIN	MAX	MIN	MAX	
А	24.64	24.89	.970	.980	
В	18.29	18.54	.720	.730	
С	25.91	26.42	1.020	1.040	
D	12.60	12.85	.496	.506	
E	6.22	6.48	.245	.255	
F	5.59	5.84	.220	.230	
G	3.05	3.30	.120	.130	
н	2.21	2.59	.087	.102	
J	3.91	4.42	.154	.174	
к	6.53	7.34	.257	.289	
L	.10	.15	.004	.006	

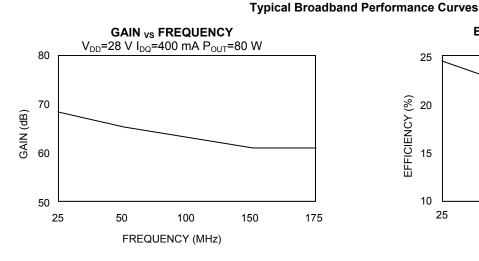


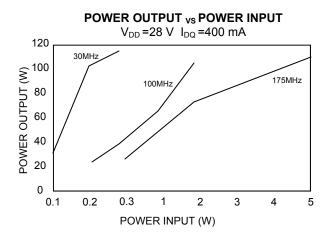
## DU2880U

## RF Power MOSFET Transistor 80W, 2-175MHz, 28V



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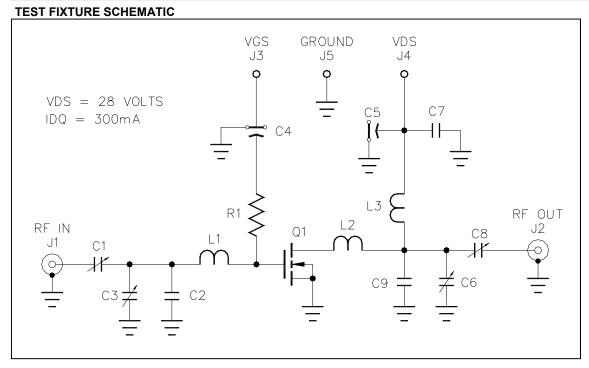
POWER OUTPUT vs SUPPLY VOLTAGE I<sub>DQ</sub> =400 mA F=175MHz P<sub>IN</sub> =3.0 W 120 100 POWER OUTPUT (W) 80 60 40 20 0 13 15 20 25 30 33

SUPPLY VOLTAGE (V)

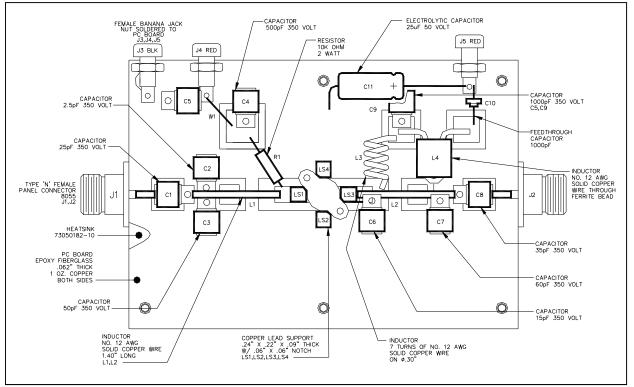


# DU2880U

## **RF Power MOSFET Transistor** 80W, 2-175MHz, 28V



#### **TEST FIXTURE ASSEMBLY**



#### 3

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