DU2805S



RF Power MOSFET Transistor 5W, 2-175MHz, 28V

M/A-COM Products Released; RoHS Compliant

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_{DS}	65	٧
Gate-Source Voltage	V _{GS}	20	V
Drain-Source Current	I _{DS}	1.4	Α
Power Dissipation	P _D	15.8	W
Junction Temperature	TJ	200	°C
Storage Temperature	T _{STG}	-55 to +150	°C
Thermal Resistance	θ_{JC}	11.1	°C/W

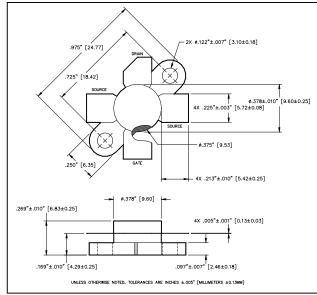
TYPICAL DEVICE IMPEDANCE

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F (MHz)	Z _{IN} (Ω)	Z_{LOAD} (Ω)			
100	15 - j121.0	57.0 + j23.0			
150	39.0 - j77.0	55.0 +j23.0			
175	41.0 - j38.0	56.0 + j19.0			
200	34.0—j14.0	56.0 + j20.0			
$V_{DD} = 28V, I_{DQ} = 50mA, P_{OUT} = 5W$					

 Z_{IN} is the series equivalent input impedance of the device from gate to source.

 Z_{LOAD} is the optimum series equivalent load impedance as measured from drain to ground.

Package Outline



LETTER	MILLIM	ETERS	INCHES	
DIM	MIN	MAX	MIN	MAX
Α	24.64	24.89	.970	.980
В	18.29	18.54	.720	.730
С	20.07	20.83	.790	.820
D	9.47	9.73	.373	.383
E	6.22	6.48	.245	.255
F	5.64	5.79	.222	.228
G	2.92	3.30	.115	.130
Н	2.29	2.67	.090	.105
J	4.04	4.55	.159	.179
К	6.58	7.39	.259	.291
L	.10	.15	.004	.006

ELECTRICAL CHARACTERISTICS AT 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Drain-Source Breakdown Voltage	BV _{DSS}	65	-	V	V _{GS} = 0.0 V , I _{DS} = 20.0 mA
Drain-Source Leakage Current	I _{DSS}	-	1.0	mA	V _{GS} = 28.0 V , V _{GS} = 0.0 V
Gate-Source Leakage Current	I _{GSS}	-	1.0	μΑ	V _{GS} = 20.0 V , V _{DS} = 0.0 V
Gate Threshold Voltage	V _{GS(TH)}	2.0	6.0	V	V _{DS} = 10.0 V , I _{DS} = 10 mA
Forward Transconductance	G_{M}	80	-	S	V_{DS} = 10.0 V , I_{DS} = 10 mA , Δ V_{GS} = 1.0 V, 80 μ s Pulse
Input Capacitance	C _{ISS}	-	7	pF	V _{DS} = 28.0 V , F = 1.0 MHz
Output Capacitance	Coss	-	5	pF	V _{DS} = 28.0 V , F = 1.0 MHz
Reverse Capacitance	C _{RSS}	-	2.4	pF	V _{DS} = 28.0 V , F = 1.0 MHz
Power Gain	G _P	11	-	dB	V _{DD} = 28.0 V, I _{DQ} = 50 mA, P _{OUT} = 5.0 W F =175 MHz
Drain Efficiency	ŋ₀	55	-	%	V _{DD} = 28.0 V, I _{DQ} = 50 mA, P _{OUT} = 5.0 W F =175 MHz
Load Mismatch	VSWR-T	-	20:1	-	V _{DD} = 28.0 V, I _{DQ} = 50 mA, P _{OUT} = 5.0 W F =175 MHz

PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

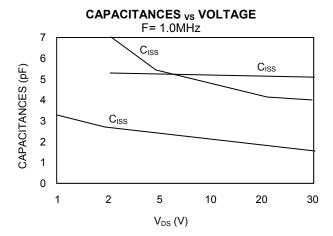
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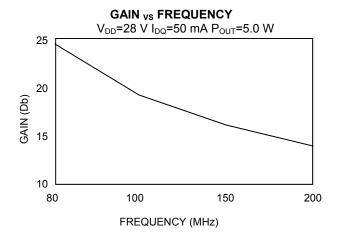


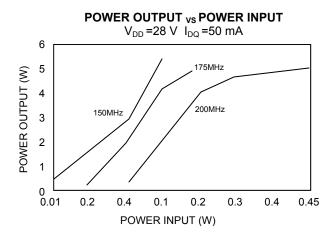
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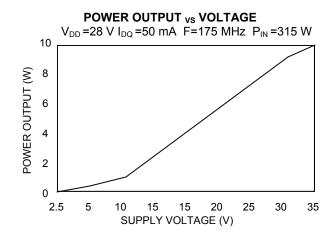
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Typical Broadband Performance Curves









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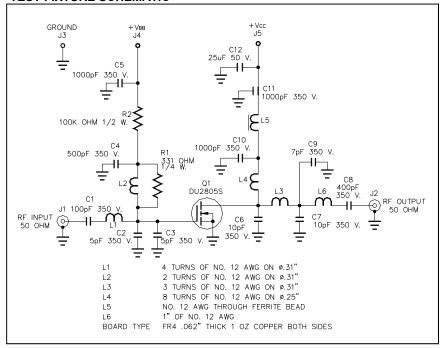
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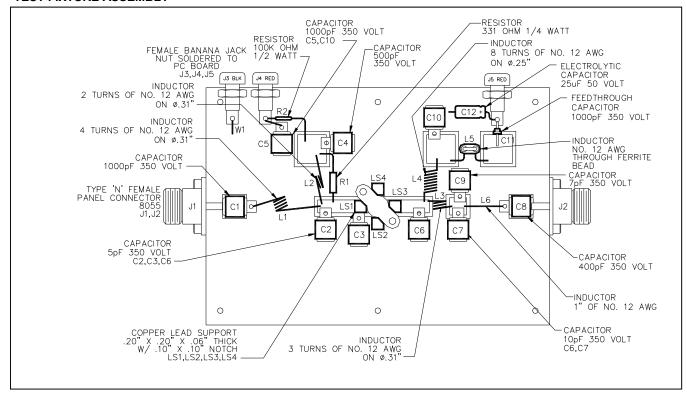
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TEST FIXTURE SCHEMATIC



TEST FIXTURE ASSEMBLY



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