Dynamic Characteristics

ARF460AG/BG

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
C_{iss}	Input Capacitance	V_{GS} = 0V		1200	1400	pF
C_{oss}	Output Capacitance	V_{DS} = 150V		150	180	
C_{rss}	Reverse Transfer Capacitance	f = 1MHz		60	75	
$t_{d(ON)}$	Turn-on Delay Time	V_{GS} = 15V		7		ns
t_r	Rise Time	V_{DD} = 0.5V_{DSS}		6		
$t_{d(off)}$	Turn-off Delay Time	I_D = $I_{D[Cont.]}$ @ 25°C		20		
t_f	Fall Time	R_G = 1.6Ω		4.0	7	

Functional Characteristics

Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
G_{PS}	Common Source Amplifier Power Gain	f = 40.68MHz	13	15		dB
η	Drain Efficiency	I_{dq} = 50mA V_{DD} = 125V	70	75		%
Ψ	Electrical Ruggedness VSWR 10:1	P_{OUT} = 150W	No Degradation in Output Power			

1. Pulse Test: Pulse width < 380 µS, Duty Cycle < 2%.

Microsemi reserves the right to change, without notice, the specifications and information contained herein.

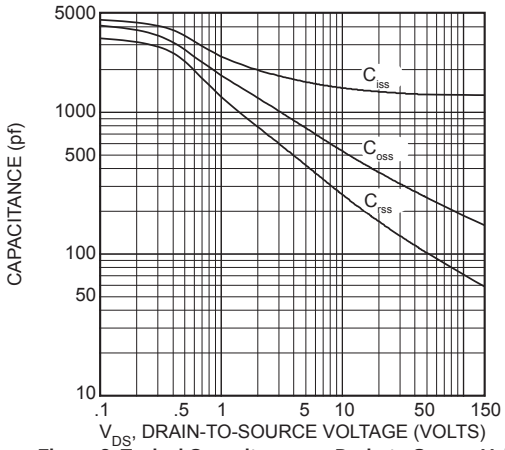

Figure 2, Typical Capacitance vs. Drain-to-Source Voltage

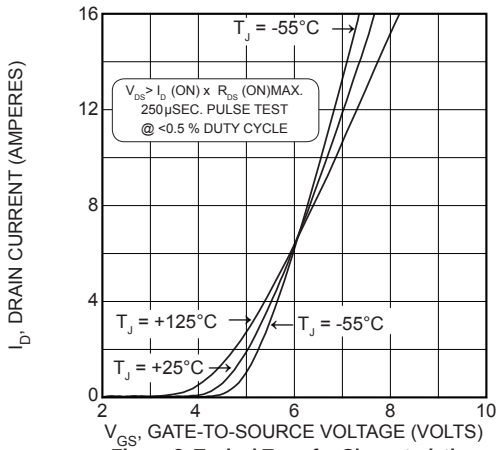

Figure 3, Typical Transfer Characteristics

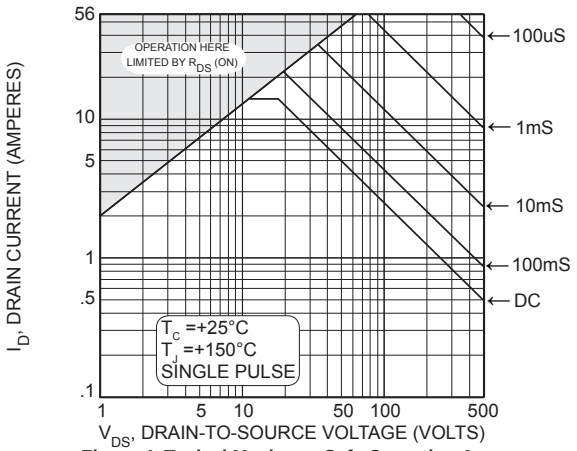

Figure 4, Typical Maximum Safe Operating Area

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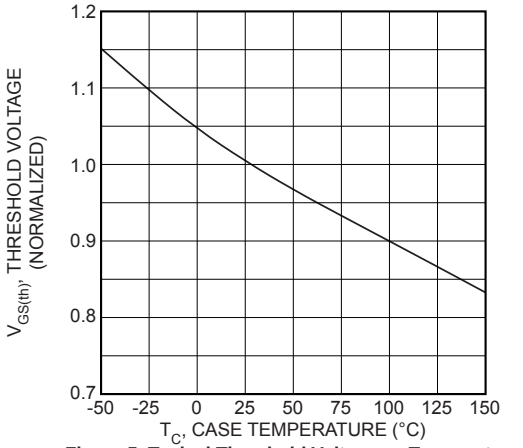

Figure 5, Typical Threshold Voltage vs Temperature

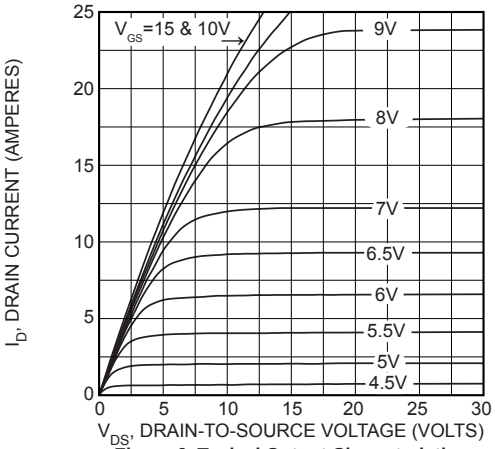

Figure 6, Typical Output Characteristics

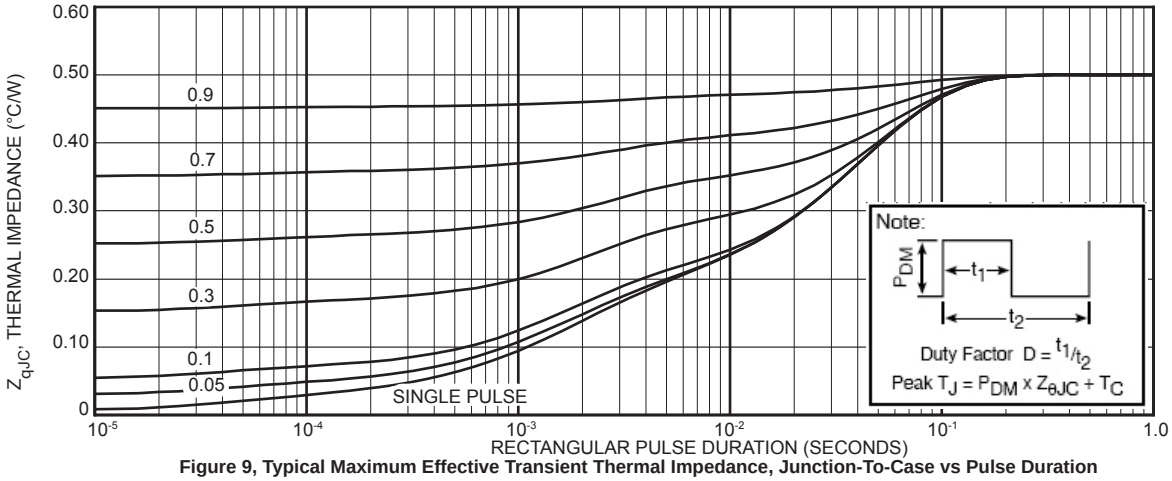

Figure 9, Typical Maximum Effective Transient Thermal Impedance, Junction-To-Case vs Pulse Duration

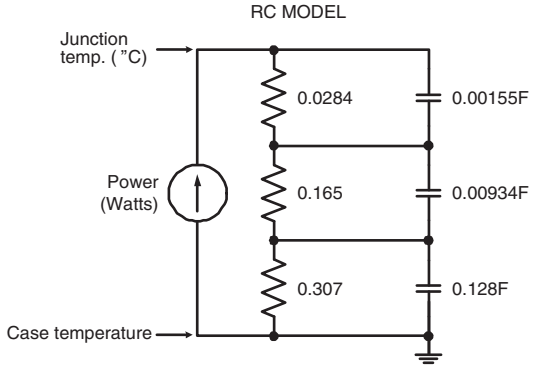

Figure 9a, TRANSIENT THERMAL IMPEDANCE MODEL

Table 1 - Typical Class AB Large Signal Input - Output Impedance

Freq. (MHz)	Z_{in} (Ω)	Z_{OL} (Ω)
2.0	20.9 - j 9.2	38 - j 2.6
13.5	2.4 - j 6.8	31 - j 14
27	.57 - j 2.6	19.6 - j 17.6
40	.31 - j 0.5	12.5 - j 15.8
65	.44 - j 1.9	6.0 - j 10.5

Z_{IN} - Gate shunted with 25Ω I_{dq} = 100mA

Z_{OL} - Conjugate of optimum load for 150 Watts output at V_{dd}=125V

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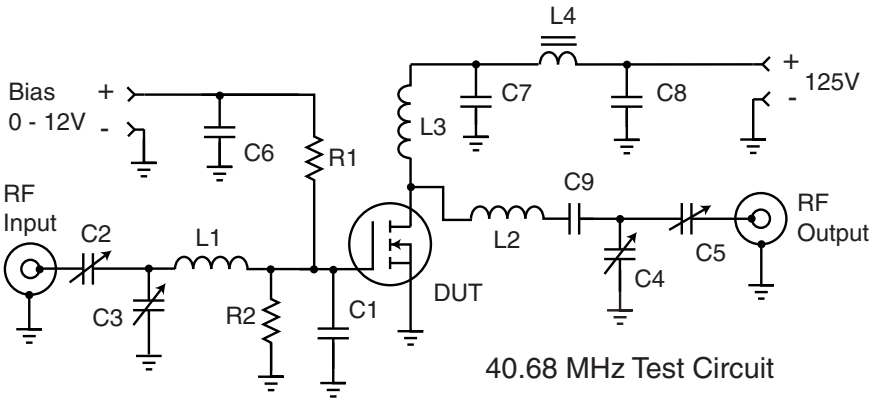
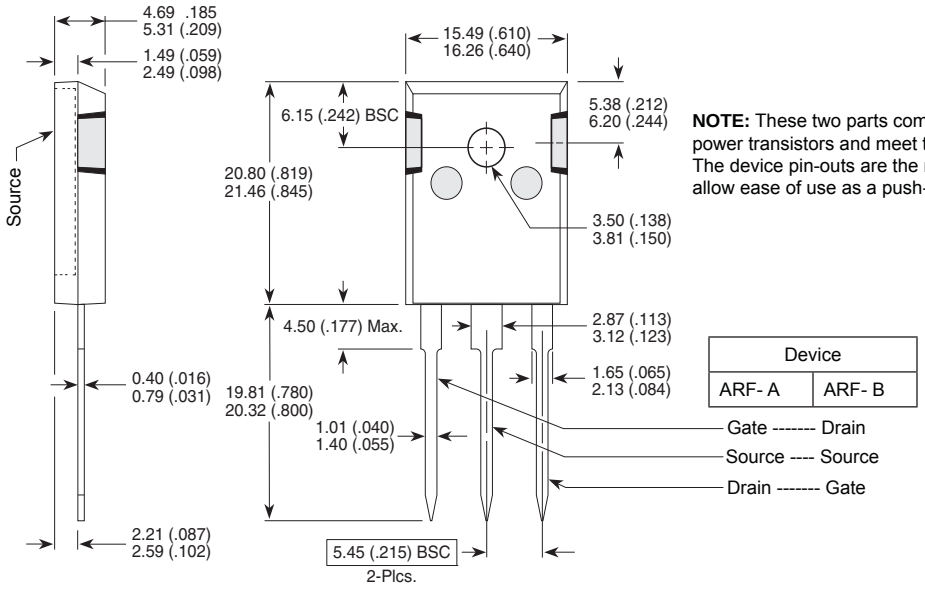


40.68 MHz Test Circuit

C1 -- 2000 pF 100V NPO chip mounted at gate lead
C2-C5 -- Arco 463 Mica trimmer
C6-C8 -- .1 μF 500V ceramic chip
C9 -- 2200 pF 500V chip
L1 -- 4t #20 AWG .25"ID .3 "L ~80nH
L2 -- 6t #16 AWG .312" ID .4"L ~185nH
L3 -- 15t #24 AWG .25"ID ~.85uH
L4 -- VK200-4B ferrite choke 3uH
R1-R2 -- 51 Ohm 0.5W Carbon
DUT = ARF460A/B

TO-247 Package Outline



NOTE: These two parts comprise a symmetric pair of RF power transistors and meet the same electrical specifications. The device pin-outs are the mirror image of each other to allow ease of use as a push-pull pair.

Device	
ARF- A	ARF- B

Dimensions in Millimeters and (Inches)

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