

Dynamic Characteristics

ARF461A/B

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
C_{iss}	Input Capacitance	$V_{GS} = 0V$ $V_{DS} = 50V$ $f = 1MHz$		1700		pF
C_{oss}	Output Capacitance			175		
C_{rss}	Reverse Transfer Capacitance			50		
$t_{d(on)}$	Turn-On Delay Time	$V_{GS} = 15V$ $V_{DD} = 0.5V_{DSS}$ $I_D = I_{D(Cont.)} @ 25^{\circ}C$ $R_G = 1.6\Omega$		8		ns
t_r	Rise Time			5		
$t_{d(off)}$	Turn-off Delay Time			21		
t_f	Fall Time			10.1		

Functional Characteristics

Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
G_{PS}	Common Source Amplifier Power Gain	$f = 40.68MHz$ $V_{GS} = 0V$ $V_{DD} = 250V$ $P_{OUT} = 150W$	13	15		dB
η	Drain Efficiency		70	75		%
ψ	Electrical Ruggedness VSWR 10:1		No Degradation in Output Power			

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

APT Reserves the right to change, without notice, the specifications and information contained herein.

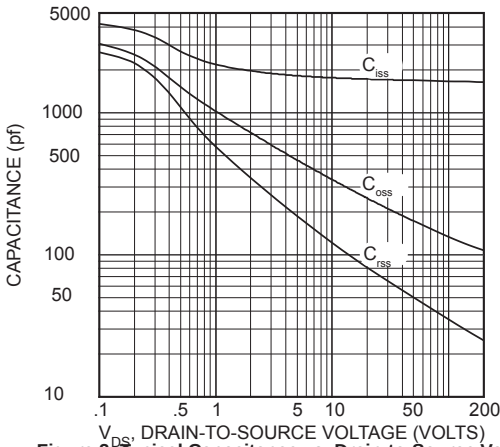


Figure 2, Typical Capacitance vs. Drain-to-Source Voltage

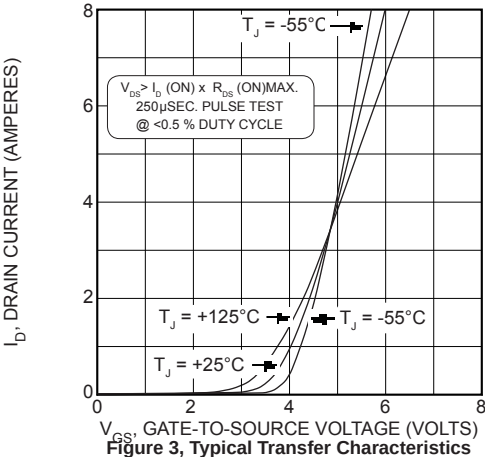


Figure 3, Typical Transfer Characteristics

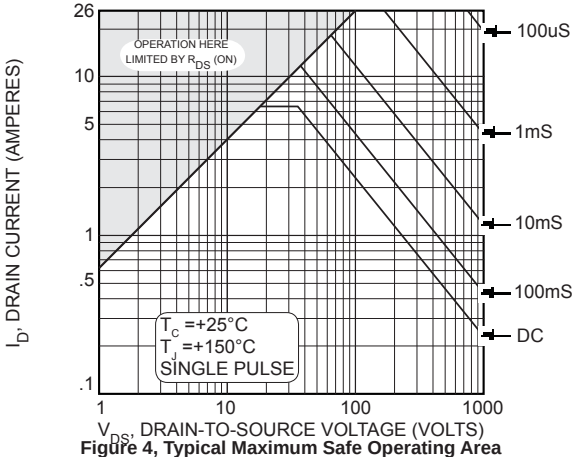


Figure 4, Typical Maximum Safe Operating Area

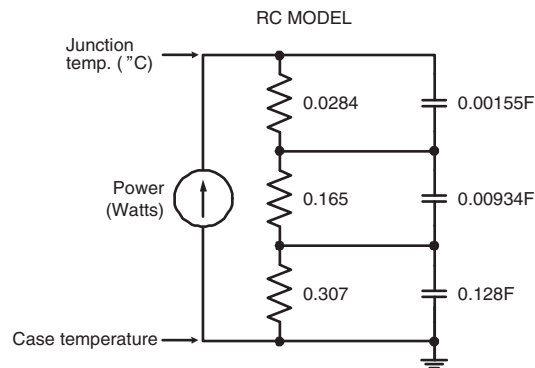
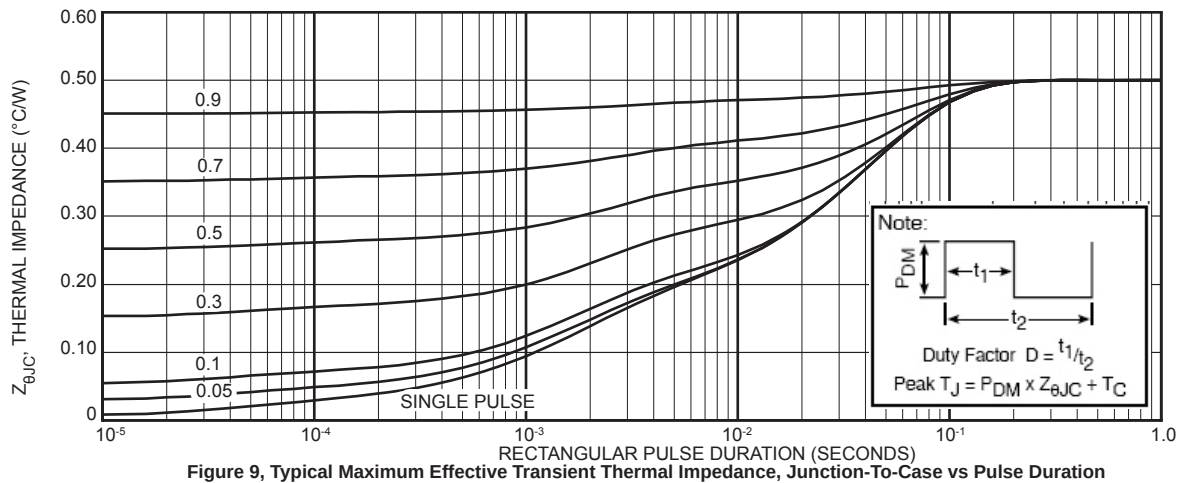
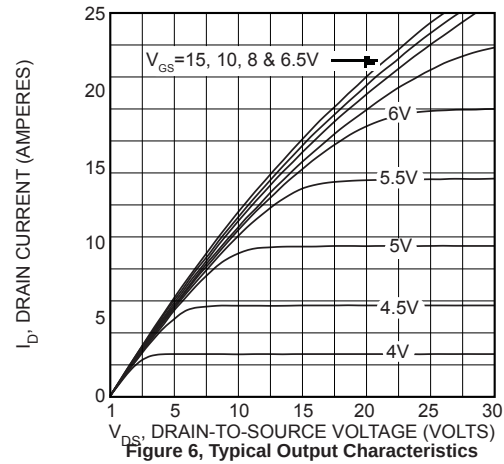
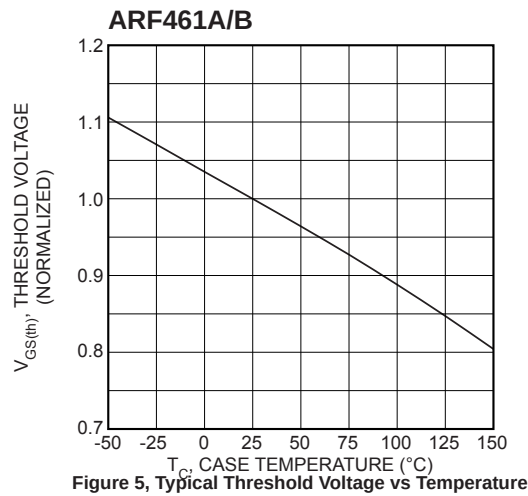


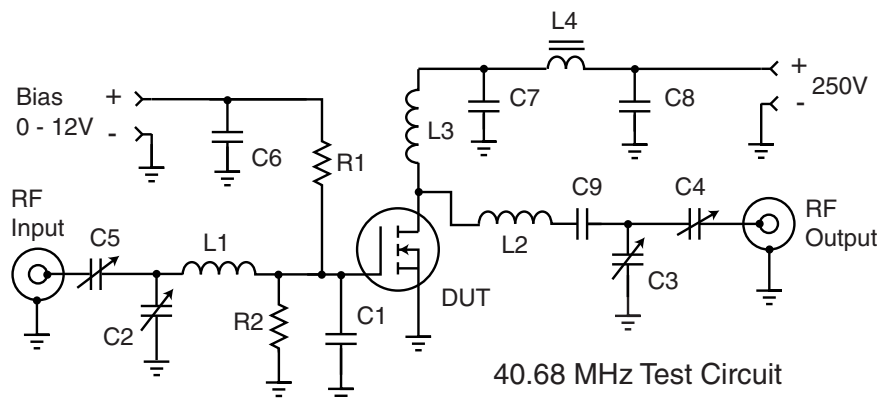
Table 1 - Typical Class AB Large Signal Input - Output Impedance

Freq. (MHz)	$Z_{in} (\Omega)$	$Z_{OL} (\Omega)$
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 25 Ω

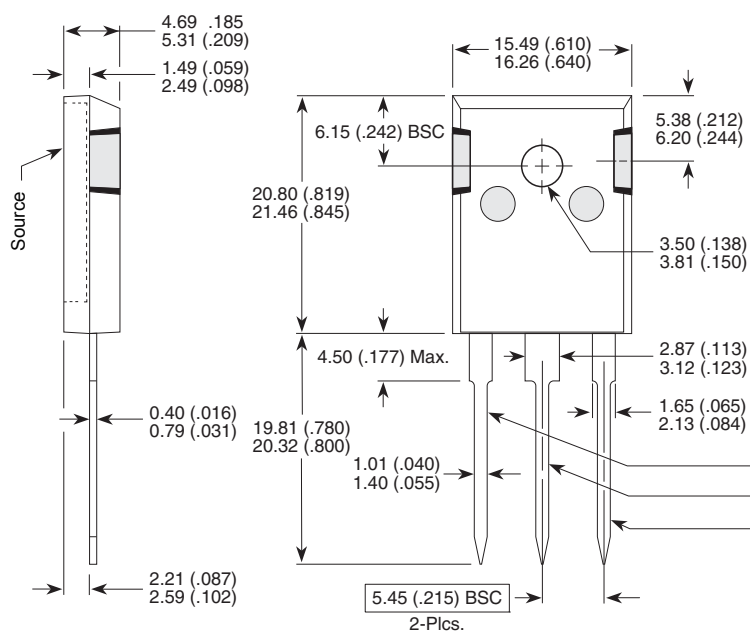
$I_{DQ} = 100\text{mA}$

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



C1 -- 1800pF + 1000pF 100V chips mounted at gate lead
 C2-C5 -- Arco 463 Mica trimmer
 C6-C8 -- .1 μ F 500V ceramic chip
 C9 -- 2200 pF 500 V chip
 L1 -- 4t #20 AWG .25"ID .3 "L ~80nH
 L2 -- 7t #16 AWG .4" ID .5"L ~335nH
 L3 -- 25t #24 AWG .25"ID ~2.2uH
 L4 -- VK200-4B ferrite choke 3uH
 R1-R2 -- 51 Ohm 0.5W Carbon
 DUT = ARF461A/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

Gate ----- Drain
 Source ---- Source
 Drain ----- Gate

Dimensions in Millimeters and (Inches)