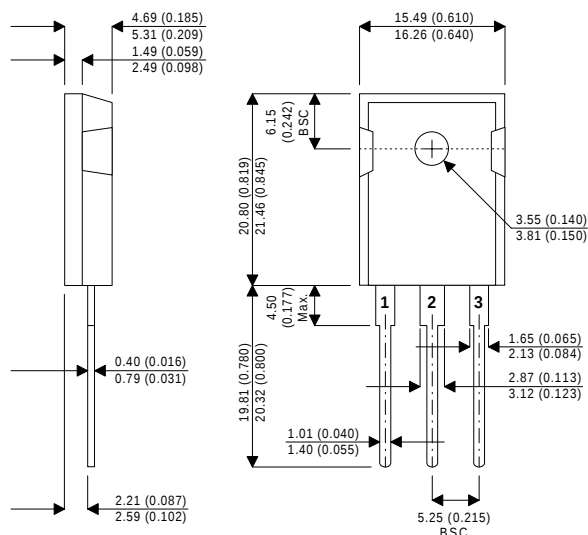


TO-247AD Package Outline.

Dimensions in mm (inches)



RF POWER MOSFET

N-CHANNEL ENHANCEMENT MODE 250W – 250V – 65MHz

FEATURES

- Low Cost Common Source RF Package.
- Very High Breakdown for Improved Ruggedness.
- Low Thermal Resistance.
- Nitride Passivated Die for Improved Reliability.

PIN NO	DEVICE	
	SRF446	SRF447
1	GATE	DRAIN
2	SOURCE	SOURCE
3	DRAIN	GATE

Dimensions in Millimeters and (Inches)

NOTE:

The SRF446 and SRF447 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.

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}\text{C}$ unless otherwise stated)

V_{DSS}	Drain – Source Voltage	900	V
V_{DGO}	Drain – Gate Voltage	900	
I_D	Continuous Drain Current	6.5	A
V_{GS}	Gate – Source Voltage	± 30	V
P_D	Total Power Dissipation @ $T_{case} = 25^{\circ}\text{C}$	230	W
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to 150	$^{\circ}\text{C}$
T_L	Lead Temperature : 0.063" from Case for 10 Sec.	300	

STATIC ELECTRICAL RATINGS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

	Characteristic	Test Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain – Source Breakdown Voltage	$V_{GS} = 0V, I_D = 250\mu A$	900			V
I_{DSS}	Zero Gate Voltage Drain Current ($V_{GS} = 0V$)	$V_{DS} = V_{DSS}$			25	μA
		$V_{DS} = 0.8V_{DSS}, T_C = 125^{\circ}C$			250	
I_{GSS}	Gate – Source Leakage Current	$V_{GS} = \pm 30V, V_{DS} = 0V$			± 100	nA
$V_{GS(TH)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = 50mA$	2		5	V
g_{fs}	Forward Transconductance	$V_{DS} = 25V, I_D = 3.5A$	4	5.7		S
$V_{DS(ON)}$	On State Drain Voltage ¹	$I_{D(ON)} = 3.5A, V_{GS} = 10V$			7	V

DYNAMIC CHARACTERISTICS

	Characteristic	Test Conditions	Min.	Typ.	Max.	Unit
C_{iss}	Input Capacitance	$V_{GS} = 0V$ $V_{DS} = 300V$ $f = 1MHz$		1500	1800	pF
C_{oss}	Output Capacitance			70	130	
C_{rss}	Reverse Transfer Capacitance			27	50	

FUNCTIONAL CHARACTERISTICS

	Characteristic	Test Conditions	Min.	Typ.	Max.	Unit
G_{ps}	Common source Amplifier Power Gain	$f = 27.12MHz$		20		dB
η	Drain Efficiency	$V_{GS} = 0V, V_{DD} = 300V$ $P_{out} = 250W$		80		%
ψ	Electrical Ruggedness VSWR 20:1		No Degradation in Output Power			
G_{ps}	Common source Amplifier Power Gain	$f = 40.68MHz$		15		dB
η	Drain Efficiency	$V_{GS} = 0V, V_{DD} = 250V$ $P_{out} = 250W$		75		%
ψ	Electrical Ruggedness VSWR 20:1		No Degradation in Output Power			

THERMAL CHARACTERISTICS

	Characteristic	Min.	Typ.	Max.	Unit
$R_{\theta JC}$	Junction to Case			0.55	$^{\circ}C/W$

1) Pulse Test: Pulse Width < 380 μ S , Duty Cycle < 2%



CAUTION — Electrostatic Sensitive Devices. Anti-Static Procedures Must Be Followed.