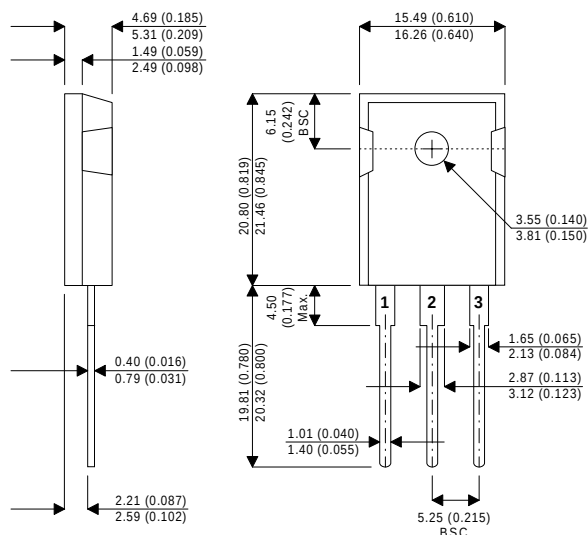


TO-247AD Package Outline.

Dimensions in mm (inches)



RF POWER MOSFET

**N-CHANNEL
ENHANCEMENT MODE
125W – 50V – 13.56MHz**

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	
	SRF440	SRF441
1	GATE	DRAIN
2	SOURCE	SOURCE
3	DRAIN	GATE

Dimensions in Millimeters and (Inches)

NOTE:

The SRF440 and SRF441 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 ($T_{case} = 25^{\circ}C$ unless otherwise stated)

V_{DSS}	Drain – Source Voltage	150	V
V_{DGO}	Drain – Gate Voltage	150	
I_D	Continuous Drain Current	11	A
V_{GS}	Gate – Source Voltage	± 30	V
P_D	Total Power Dissipation @ $T_{case} = 25^{\circ}C$	167	W
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to 150	$^{\circ}C$
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	$V_{GS} = 0V$, $I_D = 250\mu A$	150			V
I_{DSS}	Zero Gate Voltage Drain Current ($V_{GS} = 0V$)	$V_{DS} = V_{DSS}$			250	μA
		$V_{DS} = 0.8V_{DSS}$, $T_C = 125^{\circ}C$			1000	
I_{GSS}	Gate – Source Leakage Current	$V_{GS} = \pm 30V$, $V_{DS} = 0V$			± 100	nA
$V_{GS(TH)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$, $I_D = 200mA$	2		5	V
g_{fs}	Forward Transconductance	$V_{DS} = 10V$, $I_D = 5.5A$	4	5		S
$V_{DS(ON)}$	On State Drain Voltage ¹	$I_{D(ON)} = 10A$, $V_{GS} = 10V$			6	V

DYNAMIC CHARACTERISTICS

	Characteristic	Test Conditions	Min.	Typ.	Max.	Unit
C_{iss}	Input Capacitance	$V_{GS} = 0V$ $V_{DS} = 50V$ $f = 1MHz$		755	900	pF
C_{oss}	Output Capacitance			155	215	
C_{rss}	Reverse Transfer Capacitance			55	90	

FUNCTIONAL CHARACTERISTICS

	Characteristic	Test Conditions	Min.	Typ.	Max.	Unit
G_{ps}	Common source Amplifier Power Gain	$f = 13.56MHz$ $I_{DQ} = 200mA$, $V_{DD} = 50V$ $P_{out} = 125W$	18	21		dB
η	Drain Efficiency			63		%
ψ	Electrical Ruggedness VSWR 20:1		No Degradation in Output Power			

THERMAL CHARACTERISTICS

	Characteristic	Min.	Typ.	Max.	Unit
$R_{\theta JC}$	Junction to Case			0.75	$^{\circ}C/W$

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



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