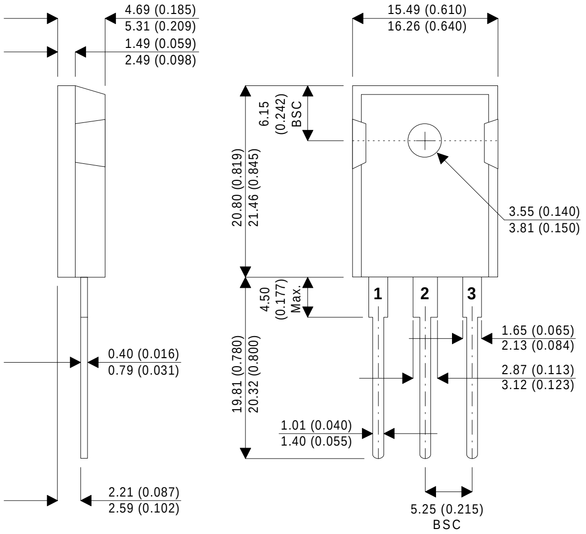
SRF449A
SRF449B

TO-247AD Package Outline.

Dimensions in mm (inches)



PIN NO	DEVICE	
	SRF449A	**SRF449B**
1	**GATE**	**DRAIN**
2	**SOURCE**	**SOURCE**
3	**DRAIN**	**GATE**

Dimensions in Millimeters and (Inches)

NOTE:
The SRF449A and SRF449B 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.

RF POWER MOSFET

N–CHANNEL
ENHANCEMENT MODE
150W – 150V – 100MHz

FEATURES

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

ABSOLUTE MAXIMUM RATINGS (T$_{case}$ = 25°C unless otherwise stated)

V_{DSS}	Drain – Source Voltage	450	V
V_{DGO}	Drain – Gate Voltage	450	
I_D	Continuous Drain Current	10	A
V_{GS}	Gate – Source Voltage	±30	V
P_D	Total Power Dissipation @ $T_{case} = 25°C$	165	W
T_J , T_{STG}	Operating and Storage Junction Temperature Range	-55 to 150	°C
T_L	Lead Temperature : 0.063” from Case for 10 Sec.	300	

STATIC ELECTRICAL RATINGS (T_{case} = 25°C unless otherwise stated)

	Characteristic	Test Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain – Source Breakdown Voltage	$V_{GS} = 0V$, $I_D = 250\mu A$	450			V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = V_{DSS}$			25	µA
	($V_{GS} = 0V$)	$V_{DS} = 0.8V_{DSS}$, $T_C = 125°C$			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	$V_{DS} = 25V$, $I_D = 5A$	4	7		S
$V_{DS(ON)}$	On State Drain Voltage[1]	$I_{D(ON)} = 5A$ $V_{GS} = 10V$			4	V

DYNAMIC CHARACTERISTICS

	Characteristic	Test Conditions	Min.	Typ.	Max.	Unit
C_{iss}	Input Capacitance	$V_{GS} = 0V$		980	1200	pF
C_{oss}	Output Capacitance	$V_{DS} = 150V$		87	120	
C_{rss}	Reverse Transfer Capacitance	f = 1MHz		25	40	

FUNCTIONAL CHARATERITICS

	Characteristic	Test Conditions	Min.	Typ.	Max.	Unit
G_{ps}	Common source Amplifier Power Gain	f = 81.86MHz		13		dB
η	Drain Efficiency	$V_{GS} = 0V$ $V_{DD} = 150V$		75		%
ψ	Electrical Ruggedness VSWR 20:1	$P_{out} = 150W$	No Degradation in Output Power			

THERMAL CHARACTERISTICS

	Characteristic	Min.	Typ.	Max.	Unit
$R_{\theta JC}$	Junction to Case			0.76	°C/W

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