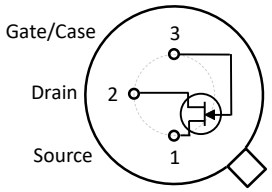
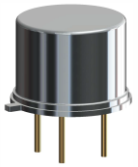
2N6449, 2N6450 N-Channel JFET

Features

- InterFET N0042SY Geometry
- High Voltage
- Low Input Capacitance: 10pF Maximum
- RoHS Compliant
- SMT, TH, and Bare Die Package options.

TO-39 Bottom View





Applications

- High Voltage

Description

The -300V InterFET 2N6449 and 2N6450 are targeted for high voltage applications. The TO-39 package is hermetically sealed and suitable for military applications.

Product Summary

Parameters		2N6449 Min	2N6450 Min	Unit
BV_{GSS}	Gate to Source Breakdown Voltage	-300	-200	V
I_{DSS}	Drain to Source Saturation Current	2	2	mA
$V_{GS(off)}$	Gate to Source Cutoff Voltage	-2	-2	V
G_{FS}	Forward Transconductance	0.5	0.5	mS

Ordering Information Custom Part and Binning Options Available

Part Number	Description	Case	Packaging
2N6449; 2N6450	Through-Hole	TO-39	Bulk
2N6449COT; 2N6450COT	Chip Orientated Tray (COT Waffle Pack)	COT	400/Waffle Pack
2N6449CFT; 2N6450CFT	Chip Face-up Tray (CFT Waffle Pack)	CFT	400/Waffle Pack

Electrical Characteristics

Maximum Ratings (@ T_A = 25°C, Unless otherwise specified)

Parameters		Value	Unit
V_{RGS}	Reverse Gate Drain Voltage	-300, -200	V
I_{FG}	Continuous Forward Gate Current	10	mA
P_D	Continuous Device Power Dissipation	800	mW
P	Power Derating	6.4	mW/°C
T_J	Operating Junction Temperature	-55 to 125	°C
T_{STG}	Storage Temperature	-65 to 200	°C

Static Characteristics (@ TA = 25°C, Unless otherwise specified)

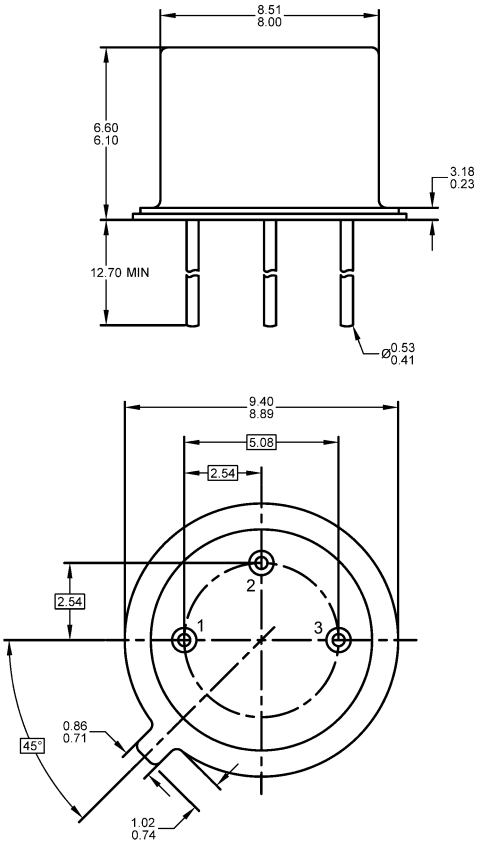
Parameters		Conditions	2N6449		2N6450		Unit
			Min	Max	Min	Max	
$V_{(BR)GSS}$	Gate to Source Breakdown Voltage	I_G = -10µA, I_D = 0A	-300		-200		V
$V_{(BR)GDO}$	Gate Drain Breakdown Voltage	I_G = -10µA, I_S = 0A	-300		-200		V
I_{GSS}	Gate to Source Reverse Current	V_{GS} = -80V, V_{DS} = 0V, T_A = 25°C V_{GS} = -80V, V_{DS} = 0V, T_A = 150°C		-100 -100		-100 -100	nA µA
$V_{GS(OFF)}$	Gate to Source Cutoff Voltage	V_{DS} = 30V, I_D = 4nA	-2	-15	-2	-15	V
I_{DSS}	Drain to Source Saturation Current	V_{GS} = 0V, V_{DS} = 30V (Pulsed)	2	10	2	10	mA

Dynamic Characteristics (@ TA = 25°C, Unless otherwise specIFNied)

Parameters		Conditions	2N6449		2N6450		Unit
			Min	Max	Min	Max	
G_{FS}	Forward Transconductance	V_{DS} = 30V, V_{GS} = 0V, f = 1kHz	0.5	3	0.5	3	mS
G_{OS}	Output Conductance	V_{DS} = 30V, V_{GS} = 0V, f = 1kHz		100		100	µS
C_{iss}	Input Capacitance	V_{DS} = 30V, V_{GS} = 0V, f = 1MHz		10		10	pF
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 30V, V_{GS} = 0V, f = 1MHz		5		5	pF

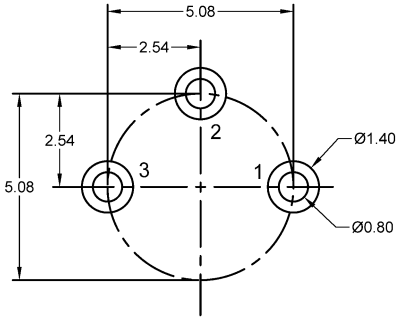
TO-39 Mechanical and Layout Data

Package Outline Data



1. All linear dimensions are in millimeters.
2. Package weight approximately 0.42 grams
3. Bulk product is shipped in standard ESD shipping material
4. Refer to JEDEC standards for additional information.

Suggested Through-Hole Layout



1. All linear dimensions are in millimeters.
2. The suggested land pattern dimensions have been provided as a straight lead reference only. A more robust pattern may be desired for wave soldering and/or bent lead configurations.