

TECHNICAL DATA  
DATA SHEET 2027, REV. A

## HERMETIC POWER MOSFET N-CHANNEL

**DESCRIPTION:** A 600 VOLT, 16 AMP, 0.40 OHM MOSFET IN A HERMETIC TO-254 PACKAGE.

### MAXIMUM RATINGS

ALL RATINGS ARE AT  $T_A = 25^\circ\text{C}$  UNLESS OTHERWISE SPECIFIED.

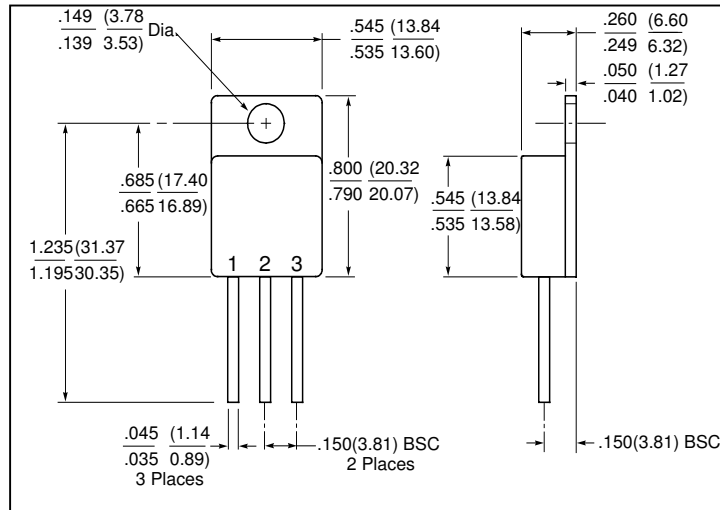
RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	$V_{GS}$	-	-	$\pm 20$	Volts
CONTINUOUS DRAIN CURRENT $V_{GS}=10\text{V}, T_C = 25^\circ\text{C}$ $V_{GS}=10\text{V}, T_C = 100^\circ\text{C}$	$I_D$	-	-	16 10	Amps
PULSED DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	$I_{DM}$	-	-	52	Amps(pk)
OPERATING AND STORAGE TEMPERATURE	$T_{OP}/T_{STG}$	-55	-	+150	$^\circ\text{C}$
THERMAL RESISTANCE JUNCTION TO CASE	$R_{\theta JC}$	-	-	1.0	$^\circ\text{C}/\text{W}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	$P_D$	-	-	125	Watts

### ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNITS
DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$	$BV_{DSS}$	600	-	-	Volts
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	$V_{GS(th)}$	2.0	-	4.0	Volts
DRAIN TO SOURCE ON STATE RESISTANCE $I_D = 5.5\text{A}, V_{GS} = 10\text{V}@T_J = 25^\circ\text{C}$	$R_{DS(ON)}$	-	-	0.40	$\Omega$
FORWARD TRANSCONDUCTANCE $V_{DS} = 2\text{Vdc}, I_D = 5.5\text{A}$	$g_{fs}$	5.0	-	-	$\text{S}(1/\Omega)$
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = 600\text{Vdc}, V_{GS} = 0\text{Vdc}$ $V_{DS} = 480\text{V}, V_{GS} = 0\text{Vdc}, T_J = 125^\circ\text{C}$	$I_{DSS}$	-	0.1 0.2	0.25 1.0	mA
GATE TO BODY LEAKAGE CURRENT $V_{GS} = \pm 20\text{Vdc}, V_{DS} = 0\text{Vdc}$	$I_{GSS}$	-	-	+100 -100	nA
TOTAL GATE CHARGE GATE TO SOURCE CHARGE GATE TO DRAIN CHARGE $V_{GS} = 10\text{Vdc}, V_{DS} = 360\text{Vdc}, I_D = 16\text{Adc}$	$Q_g$ $Q_{gs}$ $Q_{gd}$	-	-	210 26 110	nC
TURN ON DELAY TIME RISE TIME TURN OFF DELAY TIME FALL TIME $V_{DD} = 210\text{V}, I_D = 7.0\text{Adc}, V_{GS} = 10\text{Vdc}, R_G = 5.0\Omega, R_D = 30\Omega$	$t_{d(ON)}$ $t_r$ $t_{d(OFF)}$ $t_f$	-	19 54 110 56	-	nsec
INPUT CAPACITANCE OUTPUT CAPACITANCE REVERSE TRANSFER CAPACITANCE $T_J = 150^\circ\text{C}, V_{DS} = 25\text{Vdc}, V_{GS} = 0\text{Vdc}, f = 1\text{MHz}$	$C_{iss}$ $C_{oss}$ $C_{rss}$	-	3900 440 98	-	pF
FORWARD VOLTAGE $I_S = 16\text{Adc}, V_{GS} = 0\text{V}$	$V_{SD}$	-	-	1.4	Volts
REVERSE RECOVERY TIME REVERSE RECOVERY CHARGE $I_F = 16\text{Adc}, di/dt = 100\text{A}/\mu\text{sec}$	$t_{rr}$ $Q_{rr}$	-	700 6.6	-	nsec $\mu\text{C}$

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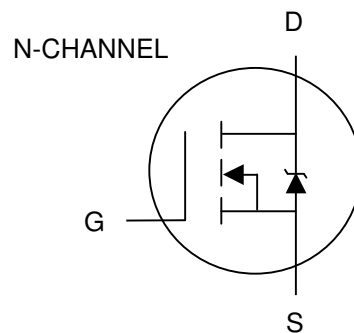
**MECHANICAL DIMENSIONS: in Inches / mm**



**TO-254**

**PINOUT TABLE**

DEVICE TYPE	PIN 1	PIN 2	PIN 3
N-CHANNEL MOSFET, TO-254 PACKAGE	DRAIN	SOURCE	GATE



**TECHNICAL DATA**

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