

TECHNICAL DATA  
DATA SHEET 161, REV -  
(see also data sheet 766)

## HERMETIC POWER MOSFET N-CHANNEL

**FEATURES:**

- 100 Volt, 0.07 Ohm MOSFET
- Isolated and Hermetically Sealed
- Simple Drive Requirements
- Repetitive Avalanche Rating

**MAXIMUM RATINGS**

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

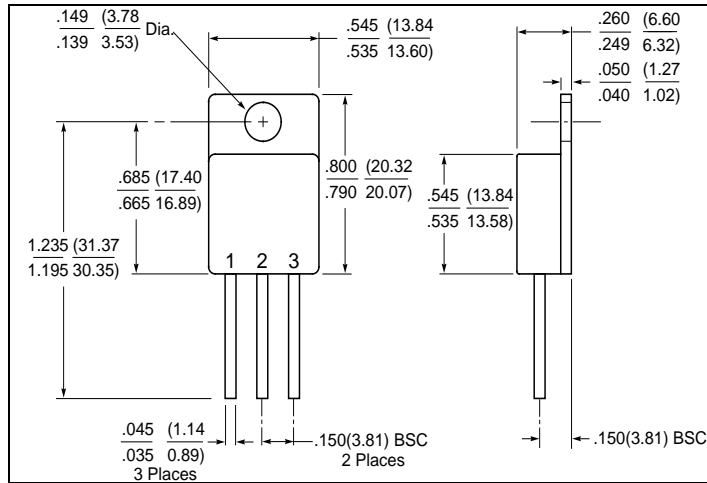
RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	$V_{GS}$	-	-	$\pm 20$	Volts
CONTINUOUS DRAIN CURRENT $V_{GS}=10\text{V}, T_C = 25^\circ\text{C}$ $V_{GS}=10\text{V}, T_C = 100^\circ\text{C}$	$I_D$	-	-	34 21	Amps
PULSED DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	$I_{DM}$	-	-	136	Amps
OPERATING AND STORAGE TEMPERATURE	$T_{OP}/T_{STG}$	-55	-	150	$^\circ\text{C}$
TERMAL RESISTANCE JUNCTION TO CASE	$R_{\theta JC}$	-	-	0.83	$^\circ\text{C}/\text{W}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	$P_D$	-	-	150	Watts

**ELECTRICAL CHARACTERISTICS**

DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0\text{V}, I_D = 1.0\text{mA}$	$BV_{DSS}$	100	-	-	Volts
DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10\text{V}, I_D = 21\text{A}$ $V_{GS} = 10\text{V}, I_D = 34\text{A}$	$R_{DS(ON)}$	-	-	0.07 0.081	$\Omega$
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} \geq 15\text{V}, I_{DS} = 21\text{A}$	$g_{fs}$	9.0	-	-	$\text{S}(1/\Omega)$
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = 0.8 \times \text{Max. Rating}, V_{GS} = 0\text{V}$ $V_{DS} = 0.8 \times \text{Max. Rating}$ $V_{GS} = 0\text{V}, T_J = 125^\circ\text{C}$	$I_{DSS}$	-	-	25 250	$\mu\text{A}$
GATE TO SOURCE LEAKAGE FORWARD @ RATED GATE TO SOURCE LEAKAGE REVERSE $V_{GS}$	$I_{GSS}$	-	-	100 -100	nA
TOTAL GATE CHARGE $V_{GS} = 10\text{V}$	$Q_g$	50	-	125	nC
GATE TO SOURCE CHARGE $V_{DS}$	$Q_{gs}$	8	-	22	
GATE TO DRAIN CHARGE RATED $I_D$	$Q_{gd}$	15	-	65	
TURN ON DELAY TIME $V_{DD} = 50\text{V}$	$t_{d(ON)}$	-	-	35	nsec
RISE TIME RATED $I_D$	$t_r$	-	-	190	
TURN OFF DELAY TIME $R_G = 2.35\Omega$	$t_{d(OFF)}$	-	-	170	
FALL TIME	$t_f$	-	-	130	
DIODE FORWARD VOLTAGE 34A, $V_{GS} = 0\text{V}$	$V_{SD}$	-	-	1.8	Volts
DIODE REVERSE RECOVERY TIME $T_J = 25^\circ\text{C}$	$t_{rr}$	-	-	500	nsec

REVERSE RECOVERY CHARGE	$I_f = \text{RATED ID}$ $di/dt = 100\text{A/sec}$	$Q_{rr}$			2.9	$\mu\text{C}$
INPUT CAPACITANCE	$V_{GS} = 0 \text{ VOLTS}$	$C_{iss}$	-	3700	-	pF
OUTPUT CAPACITANCE	$V_{DS} = 25 \text{ VOLTS}$	$C_{oss}$		1100		
REVERSE TRANSFER CAPACITANCE	$f = 1 \text{ MHz}$	$C_{rss}$		200		

**MECHANICAL DIMENSIONS: in Inches / mm**



**TO-254**

**PINOUT TABLE**

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