

TECHNICAL DATA  
DATA SHEET 553, REV. A

## HERMETIC POWER MOSFET N-CHANNEL

**FEATURES:**

- 500 Volt, 0.85, Ohm, 5.5Amp MOSFET
- Isolated and Hermetically Sealed
- Surface Mount Package

**MAXIMUM RATINGS**

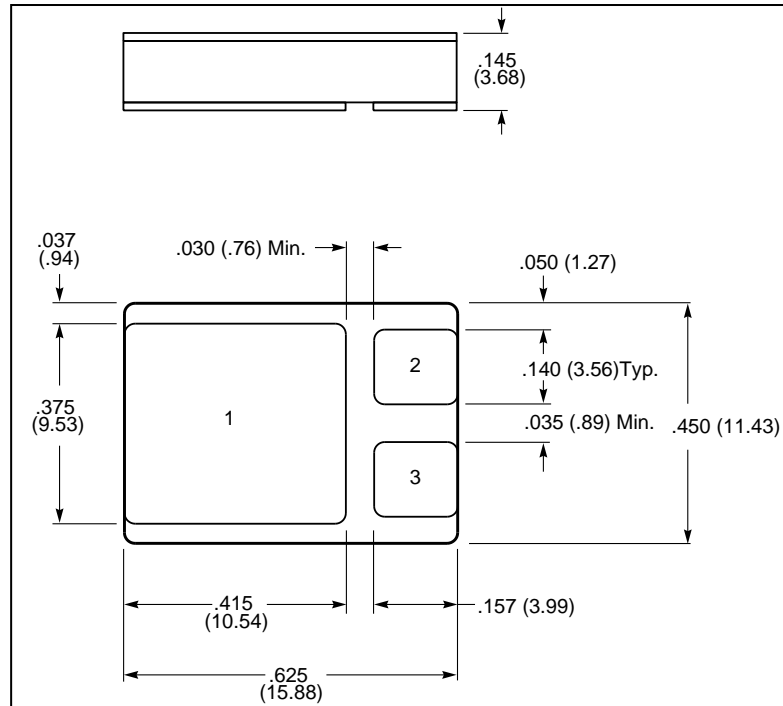
ALL RATINGS ARE AT  $T_A = 25^\circ\text{C}$  UNLESS OTHERWISE SPECIFIED.

RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	$V_{GS}$	-	-	$\pm 20$	Volts
CONTINUOUS DRAIN CURRENT $T_C = 25^\circ\text{C}$	$I_D$	-	-	5.5	Amps
PULSED DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	$I_{DM}$	-	-	22	Amps
OPERATING AND STORAGE TEMPERATURE	$T_{OP}/T_{STG}$	-55	-	+150	$^\circ\text{C}$
TERMAL RESISTANCE JUNCTION TO CASE	$R_{\theta JC}$	-	-	0.62	$^\circ\text{C}/\text{W}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	$P_D$	-	-	200	Watts

**ELECTRICAL CHARACTERISTICS**

DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0\text{V}, I_D = 1.0\text{mA}$	$BV_{DSS}$	500	-	-	Volts
DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10\text{V}, I_D = 3.5\text{A}$	$R_{DS(ON)}$	-	-	0.85	$\Omega$
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} \geq 15\text{V}, I_D = 3.5\text{A}$	$g_{fs}$	4.7	-	-	$\text{S}(1/\Omega)$
ZERO GATE VOLTAGE DRAIN CURRENT, $T_J = 25^\circ\text{C}$ ( $V_{DS} = 0.8 \times \text{Max. Rating}, V_{GS} = 0\text{V}$ ), $T_J = 125^\circ\text{C}$	$I_{DSS}$	-	-	25 250	$\mu\text{A}$
GATE TO SOURCE LEAKAGE FORWARD $V_{GS} = 20\text{V}$ GATE TO SOURCE LEAKAGE REVERSE $V_{GS} = -20\text{V}$	$I_{GSS}$	-	-	100 -100	nA
TOTAL GATE CHARGE $V_{GS} = 10\text{V}$ , GATE TO SOURCE CHARGE $V_{DS} = 250\text{V}$ , GATE TO DRAIN CHARGE $I_D = 5.5\text{A}$	$Q_g$ $Q_{gs}$ $Q_{gd}$	-	-	68.5 12.5 40.5	nC
TURN ON DELAY TIME $V_{DD} = 250\text{V}$ , RISE TIME $I_D = 5.5\text{A}$ , TURN OFF DELAY TIME $R_G = 9.1\Omega$ , FALL TIME $V_{GS} = 10\text{V}$	$t_{d(ON)}$ $t_r$ $t_{d(OFF)}$ $t_f$	-	21 73 72 51	-	nsec
CONTINUOUS SOURCE CURRENT	$I_S$	-	5.5	-	Amps
DIODE FORWARD VOLTAGE $T_J = 25^\circ\text{C}, I_S = 5.5\text{V}$ $V_{GS} = 0\text{V}$	$V_{SD}$	-	-	1.5	Volts
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C}$ , $I_S = 5.5\text{A}$ , $di/dt \leq -100\text{A}/\mu\text{sec}$ ,	$t_{rr}$	-	-	700	nsec
REVERSE RECOVERY CHARGE $V_{DD} \leq 50\text{V}$	$Q_{rr}$	-	-	8.9	$\mu\text{C}$
INPUT CAPACITANCE $V_{GS} = 0\text{V}, V_{DS} = 25\text{V}$ , OUTPUT CAPACITANCE $f = 1.0\text{MHz}$ REVERSE TRANSFER CAPACITANCE	$C_{iss}$ $C_{oss}$ $C_{rss}$	-	1300 310 120	-	pF

**MECHANICAL DIMENSIONS: in Inches / mm**



**SMD-1**

**PINOUT TABLE**

DEVICE TYPE	PIN 1	PIN 2	PIN 3
MOSFET LCC-3P PACKAGE	DRAIN	SOURCE	GATE

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