TECHNICAL DATA
DATA SHEET 778, REV. B

HERMETIC POWER MOSFET
N-CHANNEL

FEATURES:

- **60 Volt, 0.020 Ohm, 55A MOSFET**
- **Isolated Hermetic Ceramic Package**
- **Fast Switching**
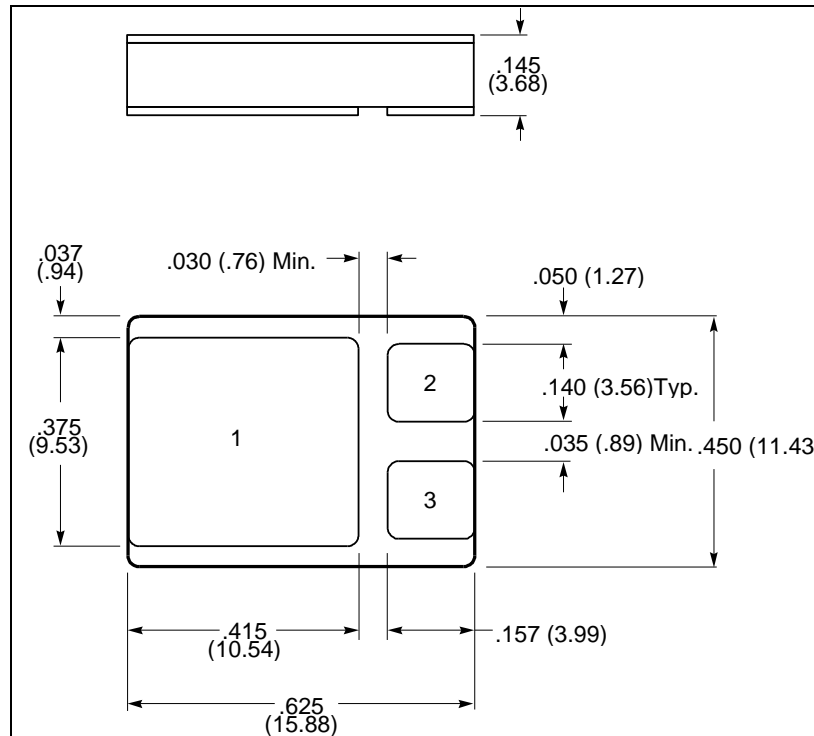- **Low $R_{DS\,(on)}$**
- **Equivalent to IRFN054**

MAXIMUM RATINGS
ALL RATINGS ARE AT T_C = 25°C UNLESS OTHERWISE SPECIFIED.

RATING		SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE		V_{GS}	-	-	±20	Volts
ON-STATE DRAIN CURRENT	@ T_C = 25°C	I_D	-	-	55	Amps
V_{GS} = 10V	@ T_C = 100°C		-	-	40	
PULSED DRAIN CURRENT	@ T_C = 25°C	I_{DM}	-	-	220	Amps
OPERATING AND STORAGE TEMPERATURE		T_{OP}/T_{STG}	-55	-	+150	°C
THERMAL RESISTANCE, JUNCTION TO CASE		$R_{\theta hJC}$	-	-	0.83	°C/W
TOTAL DEVICE DISSIPATION @ T_C = 25°C		P_D	-	-	150	Watts

ELECTRICAL CHARACTERISTICS

	SYMBOL	MIN.	TYP.	MAX.	UNITS
DRAIN TO SOURCE BREAKDOWN VOLTAGE V_{GS} = 0V, I_D = 1.0mA	BV_{DSS}	60	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE V_{GS} = 10V, I_D = 40A	$R_{DS(ON)}$	- 	- 	 0.02	Ω
GATE THRESHOLD VOLTAGE V_{DS} = V_{GS}, I_D = 250µA	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE V_{DS} ≥ 15V, I_{DS} = 40A	g_{fs}	20	-	-	S(1/Ω)
ZERO GATE VOLTAGE DRAIN CURRENT V_{DS} =48V, V_{GS} = 0V V_{DS} = 48V, V_{GS} = 0V, T_J = 125°C	I_{DSS}	- 	- 	25 250	µA
GATE TO SOURCE LEAKAGE FORWARD V_{GS} = 20V GATE TO SOURCE LEAKAGE REVERSE V_{GS} = -20V	I_{GSS}	-	-	100 -100	nA
TURN ON DELAY TIME V_{DD} = 30V, RISE TIME I_D = 55A, TURN OFF DELAY TIME R_G = 2.35Ω, FALL TIME V_{GS} = 10V	$t_{d(ON)}$ t_r $t_{d(OFF)}$ t_f	-	-	33 180 100 100	nsec
DIODE FORWARD VOLTAGE T_C = 25°C, I_S = 50A, V_{GS} = 0V	V_{SD}	-	-	2.5	Volts
REVERSE RECOVERY TIME T_J = 25°C, I_F = 50A, di/dt ≤ 100A/µsec, V_{DD} ≤ 50V	t_{rr}	-	-	280	nsec
INPUT CAPACITANCE V_{GS} = 0 V OUTPUT CAPACITANCE V_{DS} = 25 V REVERSE TRANSFER CAPACITANCE f = 1.0MHz	C_{iss} C_{oss} C_{rss}	-	4265 1746 493	-	pF

SENSITRON

DATASHEET 778, REV. B

MECHANICAL DIMENSIONS: in Inches / mm

.145
(3.68)

.037
(.94)

.030 (.76) Min.

.050 (1.27)

2

.140 (3.56)Typ.

1

.375
(9.53)

.035 (.89) Min. .450 (11.43)

3

.415
(10.54)

.157 (3.99)

.625
(15.88)

SMD-1

PINOUT TABLE

DEVICE TYPE	PIN 1	PIN 2	PIN 3
N-CHANNEL MOSFET, IN A SURFACE MOUNT SMD-1 PACKAGE	DRAIN	SOURCE	GATE

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