TECHNICAL DATA
DATA SHEET 4043, REV. -

HERMETIC POWER MOSFET
N-CHANNEL

DESCRIPTION: A 500 VOLT, 0.415 OHM, 12A MOSFET IN A HERMETIC TO-254 PACKAGE.
Electrically Equivalent to IRFC450

MAXIMUM RATINGS

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

RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	±20	Volts
CONTINUOUS DRAIN CURRENT @ T_C = 25°C	I_D	-	-	12	Amps
PULSED DRAIN CURRENT @ T_C = 25°C	I_{DM}	-	-	48	Amps(pk)
OPERATING AND STORAGE TEMPERATURE	T_{OP}/T_{STG}	-55	-	+150	°C
TERMAL RESISTANCE JUNCTION TO CASE	$R_{\theta JC}$	-	-	0.83	°C/W
TOTAL DEVICE DISSIPATION @ T_C = 25°C	P_D	-	-	150	Watts

ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNITS
DRAIN TO SOURCE BREAKDOWN VOLTAGE V_{GS} = 0V, I_D = 250µA	BV_{DSS}	500	-	-	Volts
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}$, I_D = 250µA	$V_{GS(TH)}$	2.0	-	4.0	Volts
DRAIN TO SOURCE ON STATE RESISTANCE V_{GS} = 10Vdc, I_D = 8.0A PULSE TEST, t ≤ 300 µs, DUTY CYCLE d ≤ 2%	$R_{DS(ON)}$	-	-	0.415	Ω
ZERO GATE VOLTAGE DRAIN CURRENT V_{DS} = Max. Rating, V_{GS} = 0Vdc V_{DS} = 0.8xMax. Rating V_{GS} = 0Vdc, T_J = 125°C	I_{DSS}	-	-	25 250	µA
GATE TO BODY LEAKAGE CURRENT V_{GS} = ±20Vdc,	I_{GSS}	-	-	±100	nA
TOTAL GATE CHARGE V_{GS} = 10 Vdc GATE TO SOURCE CHARGE V_{DS} = 0.5V Max. Rating, GATE TO DRAIN CHARGE I_D = 12A	Q_g Q_{gs} Q_{gd}	55 5.0 27	-	120 19 70	nC
TURN ON DELAY TIME V_{DD} = 250V, RISE TIME I_D = 12A, TURN OFF DELAY TIME R_G = 2.35Ω FALL TIME	$t_{d(ON)}$ t_r $t_{d(OFF)}$ t_f	-	-	35 190 170 130	nsec
FORWARD VOLTAGE I_S = 12A, V_{GS} = 0V PULSE TEST, t ≤ 300 µs, DUTY CYCLE d ≤ 2%	V_{SD}	-	-	1.7	Volts
REVERSE RECOVERY TIME I_F = 12A REVERSE RECOVERY CHARGE di/dt = 100A/µsec V_{DD} ≤ 50V	t_{rr} Q_{rr}	- -	- -	1600 14	nsec µC
INPUT CAPACITANCE V_{DS} = 25 Vdc, OUTPUT CAPACITANCE V_{GS} = 0 Vdc, REVERSE TRANSFER CAPACITANCE f = 1 MHz DRAIN TO CASE CAPACITANCE	C_{iss} C_{oss} C_{rss} C_{DC}	-	2700 600 240 12	-	pF

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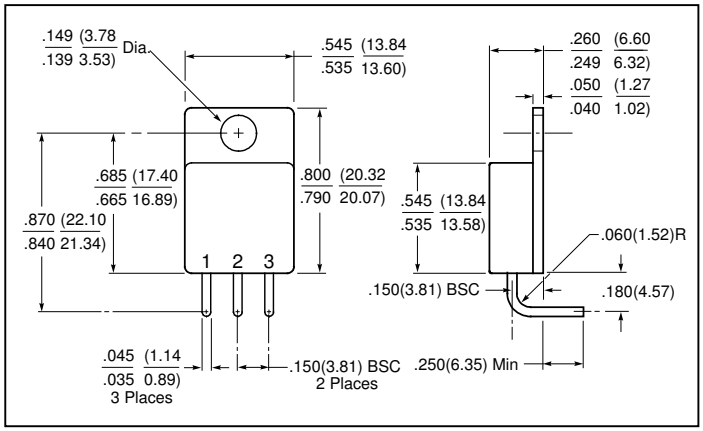
MECHANICAL DIMENSIONS: in Inches / mm



TO-254

PINOUT TABLE

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

TECHNICAL DATA

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