

TECHNICAL DATA
DATA SHEET 4065, REV. -

HERMETIC POWER MOSFET N-CHANNEL

DESCRIPTION: A 100-VOLT, 0.055-OHM MOSFET IN A HERMETIC TO-3 / TO-204AA PACKAGE.

MAXIMUM RATINGS

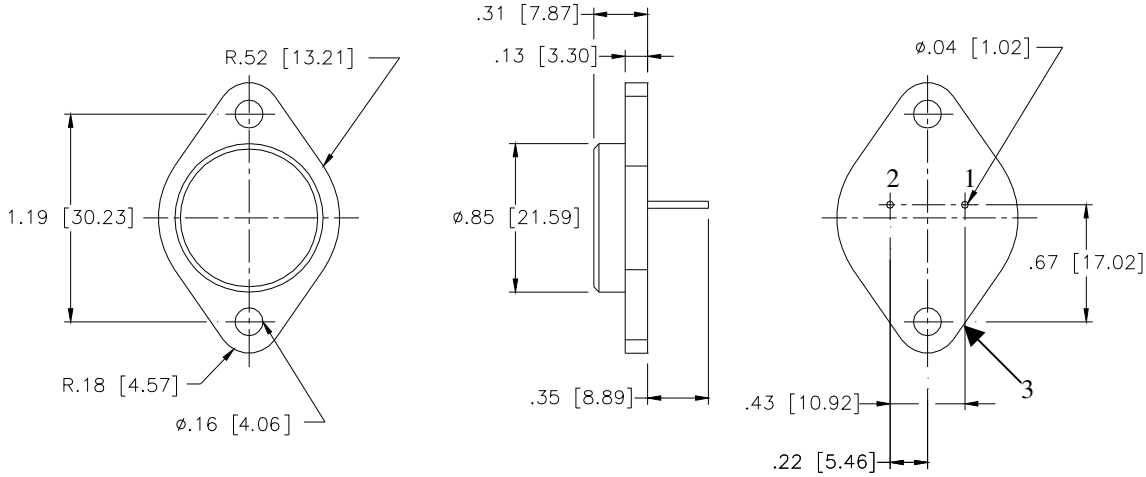
ALL RATINGS ARE AT $T_A = 25^\circ\text{C}$ UNLESS OTHERWISE SPECIFIED.

RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	± 20	Volts
CONTINUOUS DRAIN CURRENT @ $T_C = 25^\circ\text{C}$ @ $T_C = 100^\circ\text{C}$	I_D	-	-	38 24	Amps
PULSED DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	I_{DM}	-	-	150	Amps(pk)
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
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	$V_{GS(TH)}$	2.0	-	4.0	
DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10\text{Vdc}, I_D = 24\text{A}$ PULSE TEST, $t \leq 300 \mu\text{s}$, DUTY CYCLE $d \leq 2\%$	$R_{DS(ON)}$	-	-	0.055	Ω
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = 0.8 \times \text{Max. Rating}, V_{GS} = 0\text{Vdc}$ $V_{DS} = 0.8 \times \text{Max. Rating}$ $V_{GS} = 0\text{Vdc}, T_J = 125^\circ\text{C}$	I_{DSS}	-	-	25 250	μA
GATE TO BODY LEAKAGE CURRENT $V_{GS} = \pm 20\text{Vdc}$,	I_{GSS}	-	-	± 100	nA
TOTAL GATE CHARGE $V_{GS} = 10\text{Vdc}$	Q_g	50	-	125	nC
GATE TO SOURCE CHARGE $V_{DS} = 0.5\text{V Max. Rating},$	Q_{gs}	8	-	22	
GATE TO DRAIN CHARGE $I_D = 38\text{A}$	Q_{gd}	25	-	65	
TURN ON DELAY TIME $V_{DD} = 50\text{V},$	$t_{d(ON)}$	-	-	35	nsec
RISE TIME $I_D = 38\text{A},$	t_r	-	-	190	
TURN OFF DELAY TIME $R_G = 2.35\Omega$	$t_{d(OFF)}$	-	-	170	
FALL TIME	t_f	-	-	130	
FORWARD VOLTAGE $T_J = 25^\circ\text{C}, I_S = 38\text{A}, V_{GS} = 0\text{V}$ PULSE TEST, $t \leq 300 \mu\text{s}$, DUTY CYCLE $d \leq 2\%$	V_{SD}	-	-	1.9	Volts
REVERSE RECOVERY TIME $I_F = 38\text{A}$	t_{rr}	-	-	500	nsec
REVERSE RECOVERY CHARGE $di/dt = 100\text{A}/\mu\text{sec}$ $V_{DD} \leq 30\text{V}$	Q_{rr}	-	-	2.9	μC
INPUT CAPACITANCE $V_{DS} = 25\text{Vdc},$	C_{iss}	-	3700	-	pF
OUTPUT CAPACITANCE $V_{GS} = 0\text{Vdc},$	C_{oss}	-	1100	-	
REVERSE TRANSFER CAPACITANCE $f = 1\text{MHz}$	C_{rss}	-	200	-	

MECHANICAL DIMENSIONS: in Inches



PINOUT TABLE

DEVICE TYPE	PIN 1	PIN 2	PIN 3
MOSFET TO-3 / TO-204 AA PACKAGE	SOURCE	GATE	DRAIN

TECHNICAL DATA

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