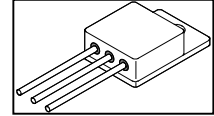


TECHNICAL DATA
DATA SHEET 665, REV -
Formerly Part Number SHD22510

HERMETIC POWER MOSFET N-CHANNEL



DESCRIPTION: 200 VOLT, 0.105 OHM, 27.4 A MOSFET IN A HERMETIC TO-254 PACKAGE.

MAXIMUM RATINGS

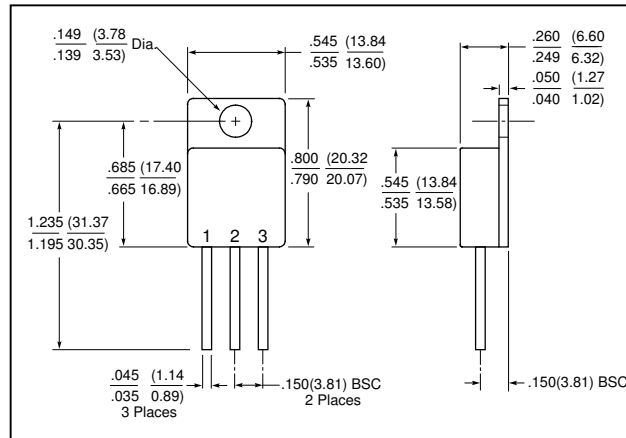
ALL RATINGS ARE AT $T_A = 25^\circ\text{C}$ UNLESS OTHERWISE SPECIFIED.

RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	± 20	Volts
CONTINUOUS DRAIN CURRENT $V_{GS}=10\text{V}, T_C = 25^\circ\text{C}$ $V_{GS}=10\text{V}, T_C = 100^\circ\text{C}$	I_D	-	-	27.4 17	Amps
PULSED DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	I_{DM}	-	-	110	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}	200	-	-	Volts
DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10\text{V}, I_D = 17\text{A}$ $V_{GS} = 10\text{V}, I_D = 27.4\text{A}$	$R_{DS(ON)}$	-	-	0.100 0.105	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} \geq 15\text{V}, I_{DS} = 17\text{A}$	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	μA
GATE TO SOURCE LEAKAGE FORWARD @ RATED GATE TO SOURCE LEAKAGE REVERSE V_{GS}	I_{GSS}	-	-	100 -100	nA
TOTAL GATE CHARGE $V_{GS} = 10\text{ VOLTS}$	Q_g	55	-	115	nC
GATE TO SOURCE CHARGE 50% RATED V_{DS}	Q_{gs}	8.0	-	22	
GATE TO DRAIN CHARGE RATED I_D	Q_{gd}	30	-	60	
TURN ON DELAY TIME $V_{DD} = 100\text{V}$	$t_{d(ON)}$	-	-	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 $T_J = 25^\circ\text{C}, I_S = 27.4\text{A},$ $V_{GS} = 0\text{V}$	V_{SD}	-	-	1.9	Volts
DIODE REVERSE RECOVERY TIME $T_J = 25^\circ\text{C}$	t_{rr}	-	-	950	nsec
REVERSE RECOVERY CHARGE $I_f = \text{RATED ID}$ $di/dt = 100\text{A/sec}$	Q_{rr}	-	-	9.0	μC
INPUT CAPACITANCE $V_{GS} = 0\text{ VOLTS}$	C_{iss}	-	3500	-	pF
OUTPUT CAPACITANCE $V_{DS} = 25\text{ VOLTS}$	C_{oss}	-	700	-	
REVERSE TRANSFER CAPACITANCE $f = 1\text{ MHz}$	C_{rss}	-	110	-	

MECHANICAL DIMENSIONS: in Inches / mm



TO-254

PINOUT TABLE

DEVICE TYPE	PIN 1	PIN 2	PIN 3
N-CHANNEL MOSFET IN A TO-254 PACKAGE	DRAIN	SOURCE	GATE

TECHNICAL DATA

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