SENSITRON
SEMICONDUCTOR

SHD225701
SHDCG225701

TECHNICAL DATA
DATA SHEET 4146, REV. B

LOW R_{DS} HERMETIC POWER MOSFET - N-CHANNEL

FEATURES:

- **100 Volt, 0.011 Ohm, 90A MOSFET for Glidcop version**
- **Isolated Hermetic Metal Package**
- **Ultra Low $R_{DS\ (on)}$**
- **Ceramic Seals with Glidcop leads (SHDCG225701)**

MAXIMUM RATINGS

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

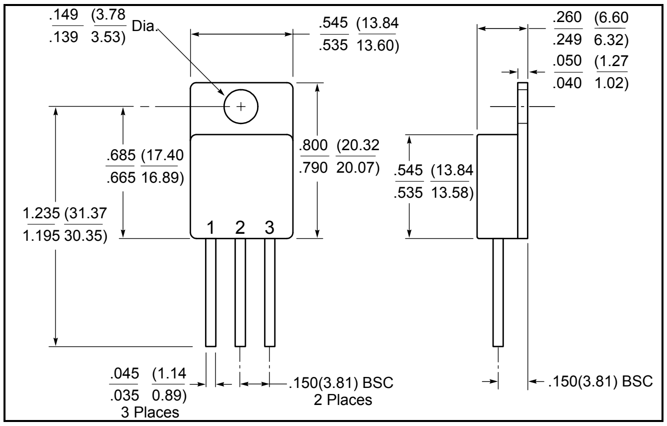
RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	±20	Volts
ON-STATE DRAIN CURRENT	I_{D25}	-	-	55*	Amps
PULSED DRAIN CURRENT	I_{DM}	-	-	240	Amps
OPERATING AND STORAGE TEMPERATURE	T_J/T_{STG}	-55	-	+150	°C
TOTAL DEVICE DISSIPATION	P_D	-	-	210	Watts
THERMAL RESISTANCE, JUNCTION TO CASE	$R_{\theta JC}$	-	-	0.6	°C/W

Note: * current limited by package; die rating is 90A

ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNITS
DRAIN TO SOURCE BREAKDOWN VOLTAGE V_{GS} = 0V, I_D = 250μA	BV_{DSS}	100	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE V_{GS} = 10V, I_D = 30A	$R_{DS(ON)}$ Glidcop Version	-	0.011	0.013	Ω
STATIC DRAIN TO SOURCE ON STATE RESISTANCE V_{GS} = 10V, I_D = 30A	$R_{DS(ON)}$ Standard Version	-	0.013	0.015	Ω
GATE THRESHOLD VOLTAGE V_{DS} = V_{GS}, I_D = 250μA	$V_{GS(th)}$	2	-	4	Volts
FORWARD TRANSCONDUCTANCE V_{DS} = 15V, I_D = 30A	g_{fs}	25	-	-	S(1/Ω)
ZERO GATE VOLTAGE DRAIN CURRENT V_{DS} = 0.8 x Max. rating, V_{GS} = 0V, T_J = 25°C T_J = 125°C	I_{DSS}	-	-	1 50	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} = 50V RISE TIME I_D = 55A TURN OFF DELAY TIME V_{GS}=10V FALL TIME R_G = 2.5Ω	$t_{d(ON)}$ t_r $t_{d(OFF)}$ t_f	-	20 110 65 100	30 170 100 150	nsec
DIODE FORWARD VOLTAGE I_F = 30A, V_{GS} = 0V Pulse test, t ≤ 300 μs, duty cycle d ≤ 2 %	V_{SD}	-	1.0	1.2	Volts
REVERSE RECOVERY TIME T_J = 25°C, I_F=30A, V_R = 100V di/dt = 100A/μsec	t_{rr}	-	70	140	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}	-	8700 740 450	-	pF

MECHANICAL DIMENSIONS: in Inches / mm



TO-254

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

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