TECHNICAL DATA
DATA SHEET 1004, REV. A
Formerly part number SHDG1025

1200 VOLT, 35 AMP IGBT DEVICE
HIGH SPEED, IMPROVED SCSOA
WITH FAST REVERSE RECOVERY DIODE

ELECTRICAL CHARACTERISTICS ($T_j=25^0C$ UNLESS OTHERWISE SPECIFIED)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
IGBT SPECIFICATIONS					
Collector to Emitter Breakdown Voltage I_C = 250 μA, V_{GE} = 0V	BV_{CES}	-	-	1200	V
Continuous Collector Current T_C = 25 °C T_C = 90 °C	I_C	-	-	40 (1) 35	A
Gate to Emitter Voltage	V_{GE}	-	-	+/-20	V
Gate-Emitter Leakage Current I_{GE} = +/-20V	I_{GES}	-	-	+/-500	nA
Gate Threshold Voltage, I_C=2mA	$V_{GE(TH)}$	4.5	6.0	7.5	V
Zero Gate Voltage Collector Current V_{GE}=0V V_{CE} = 1200 V, T_i=25°C V_{CE} = 800 V, T_i=125°C	I_{CES}	-	-	1000 5.0	μA mA
Collector to Emitter Saturation Voltage I_C = 35A, V_{GE} = 15V	$V_{CE(SAT)}$	-	2.7	3.3	V
Input Capacitance Output Capacitance Reverse Transfer Cap. V_{CE} = 25 V, V_{GE} = 0 V, f = 1 MHz	C_{ies} C_{oes} C_{res}	-	8400 350 90	-	pF
Turn On Delay Time Rise Time Turn Off Delay Time Fall Time Turn-off Energy Loss Turn-on Energy Loss (I_C = 30A, V_{GE} = 15V, V_{CE} = 600 V, R_G = 5 Ω	$t_{d(on)}$ t_r $t_{d(off)}$ t_f E_{off} E_{on}	- - - - -	90 50 270 80 4.7 5.5	- - - - -	nsec mJ mJ
Junction-to-Case Thermal Resistance	$R_{\theta JC}$	-	-	0.35	°C/W

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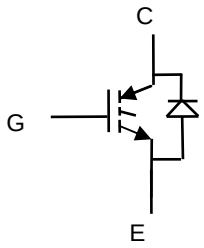
ULTRAFAST DIODE RATINGS AND CHARACTERISTICS

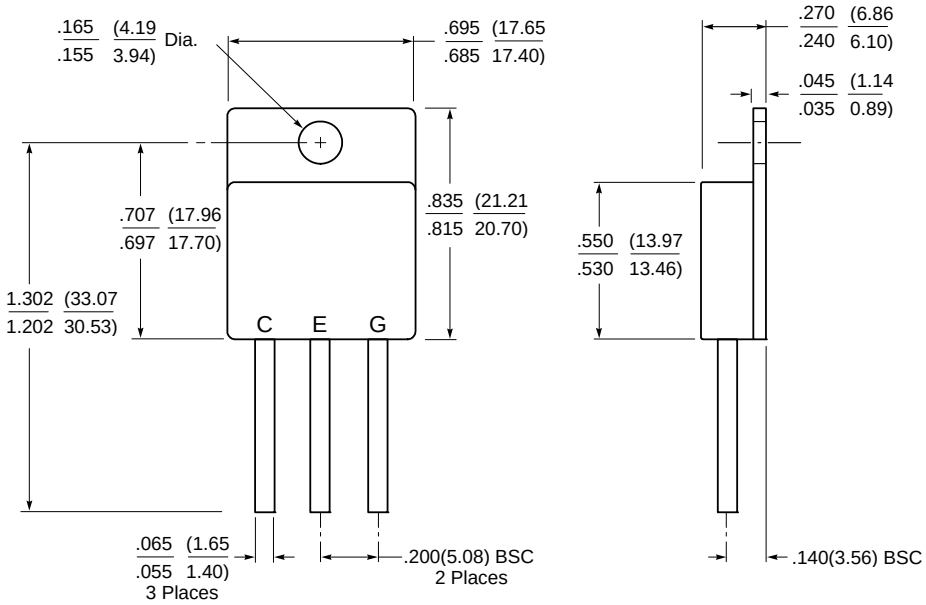
PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Diode Peak Inverse Voltage	PIV	-	-	1200	V
Diode Forward Voltage I_{EC} = 25A	V_{EC}	-	1.9	2.4	V
Diode Reverse Recovery Time (I_F=20A,di/dt 200 A/μs)	t_{rr}	-	-	150	nsec
Maximum Thermal Resistance	$R_{\theta JC}$	-	-	1.0	°C/W
Operating Junction Temperature	T_{jmax}	-55	-	150	°C/W

(1) Current is limited by package leads. Die current rating is 70A.

Schematic Diagram:



Package Drawing:
(TO258)



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