

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°C UNLESS OTHERWISE SPECIFIED)

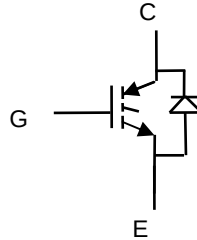
PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
IGBT SPECIFICATIONS					
Collector to Emitter Breakdown Voltage $I_C = 250 \mu A, V_{GE} = 0V$	BV_{CES}	-	-	1200	V
Continuous Collector Current $T_C = 25^\circ C$ $T_C = 90^\circ C$	I_C	-	-	40 ⁽¹⁾ 35	A
Gate to Emitter Voltage	V_{GE}	-	-	+/-20	V
Gate-Emitter Leakage Current $I_{GE} = +/-20V$	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 $V_{GE}=0V$ $V_{CE} = 1200 V, T_j=25^\circ C$ $V_{CE} = 800 V, T_j=125^\circ C$	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 ($I_C = 30A, V_{GE} = 15V, V_{CE} = 600 V, R_G = 5 \Omega$)	$t_{d(on)}$ 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

ULTRAFAST DIODE RATINGS AND CHARACTERISTICS

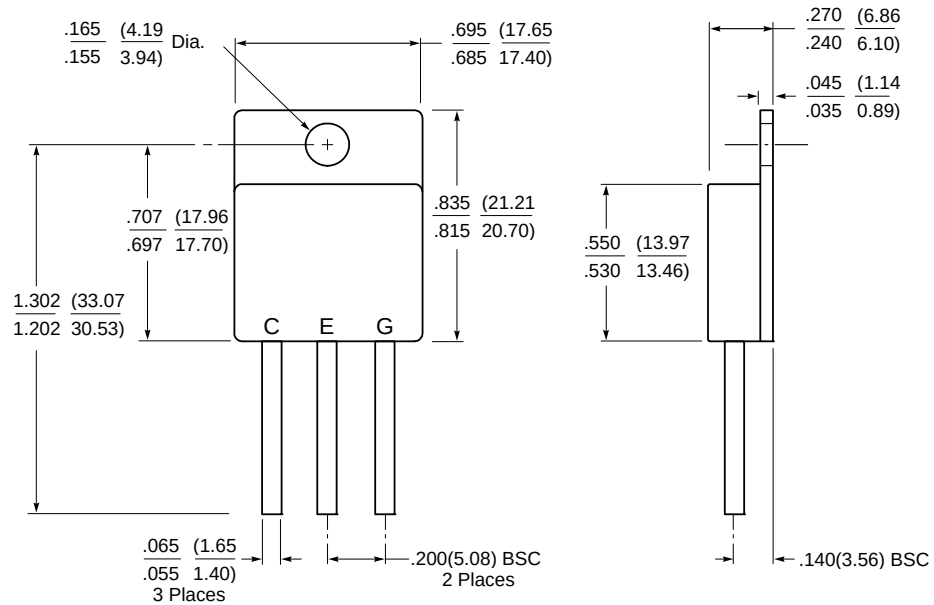
PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Diode Peak Inverse Voltage	PIV	-	-	1200	V
Diode Forward Voltage $I_{EC} = 25A$	V_{EC}	-	1.9	2.4	V
Diode Reverse Recovery Time ($I_F=20A, di/dt$ 200 A/ μs)	t_{rr}	-	-	150	nsec
Maximum Thermal Resistance	$R_{\theta JC}$	-	-	1.0	$^{\circ}C/W$
Operating Junction Temperature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

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

Schematic Diagram:



**Package Drawing:
(TO258)**



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