

TECHNICAL DATA
DATA SHEET 1006, REV. -
Formerly part number -SHSMG1009

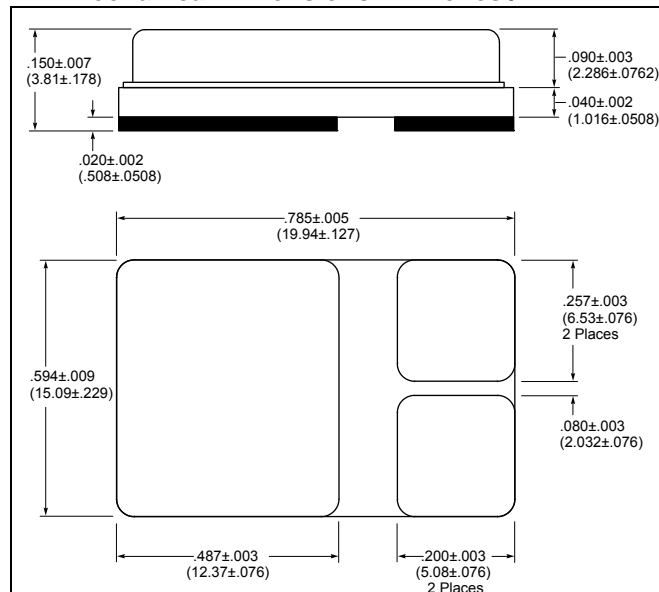
600 VOLT, 40 AMP IGBT DEVICE
HIGH SPEED, IMPROVED SCSOA

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 μA, V _{GE} = 0V	BV _{CES}	600	-	-	V
Continuous Collector Current T _C = 25 °C T _C = 90 °C	I _C	-	-	40 ⁽¹⁾ 40	A
Pulsed Collector Current, 1mS	I _{CM}	-	-	130	A
Short Circuit time, V _{GE} = 15V, V _{CE} = 500V, T _j = 125 °C di/dt < 300 A/μsec, I _C < 300A	t _{sc}	-	-	10	μsec
Gate to Emitter Voltage	V _{GE}	-	-	+/-20	V
Gate-Emitter Leakage Current, V _{GE} = +/-20V	I _{GES}	-	-	+/- 100	nA
Gate Threshold Voltage, I _C =2mA	V _{GE(TH)}	4.0	-	7.0	V
Zero Gate Voltage Collector Current V _{CE} = 600 V, V _{GE} =0V T _i =25°C V _{CE} = 480 V, V _{GE} =0V T _i =125°C	I _{CES}	- -	- -	0.25 3.0	Ma mA
Collector to Emitter Saturation Voltage, I _C = 40A, V _{GE} = 15V, T _C = 25 °C T _C = 125 °C	V _{CE(SAT)}	-	2.0 2.3	2.3 2.5	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}	-	2800 300 200	-	pF
Turn On Delay Time Rise Time Turn Off Delay Time Fall Time Turn off Energy Loss (T _j = 125 °C, I _C = 40A, V _{GE} = 15V, inductive load, V _{CC} = 300 V, R _G = 22 Ω	t _{d(on)} t _r t _{d(off)} t _f E _{off} E _{on}	- - - -	100 50 300 40 1.5 2.0	- - - -	nsec mJ mJ
Maximum Thermal Resistance	R _{θJC}	-	-	0.60	°C/W

- (1) Current is limited by package leads. Die current rating is 65A.
- (2) Current is limited by package leads. Die current rating is 75A.
- (3) Current is limited by package leads. Die current rating is 50A.

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Mechanical Dimensions: In Inches / mm

SHD-6
Schematic Diagram

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