

TECHNICAL DATA
PART NUMBER: SCP-5115, REV. -

**Hermetic Half Bridge -- IGBT Module
600V, 800A**

Features:

- Hermetic Core Construction
- Increased Creepage and Clearance Distances for High Altitude operation
- Built-in RTD for accurate Temperature sense
- High Frequency Switching
- Operation at Temperature Extremes
- Internal Layout with Minimized Stray Inductances



Maximum Ratings

All ratings are at $T_A = 25^\circ\text{C}$ unless otherwise specified.

Symbol	Test Conditions	Value	Units
V_{ces}	$V_{ge} = 0\text{V}$	600	V
I_c	$T_c = 25^\circ\text{C} / 70^\circ\text{C}$	800 / 500	A
I_{cpulse}	$T_j = 25^\circ\text{C} / 125^\circ\text{C}, 10\text{kHz}, D=.05$	1400 / 800	A
V_{GE}		+ / - 20	V
Hipot	1500Vrms, 50Hz / 60Hz, 1 min.		
T_j		-55 to 150	$^\circ\text{C}$
Diode			
I_F	$T_c = 25^\circ\text{C} / 70^\circ\text{C}$	800 / 500	A
I_{FM}	$T_j = 25^\circ\text{C} / 125^\circ\text{C}, 10\text{kHz}, D=.05$	1400 / 800	A

Electrical Characteristics

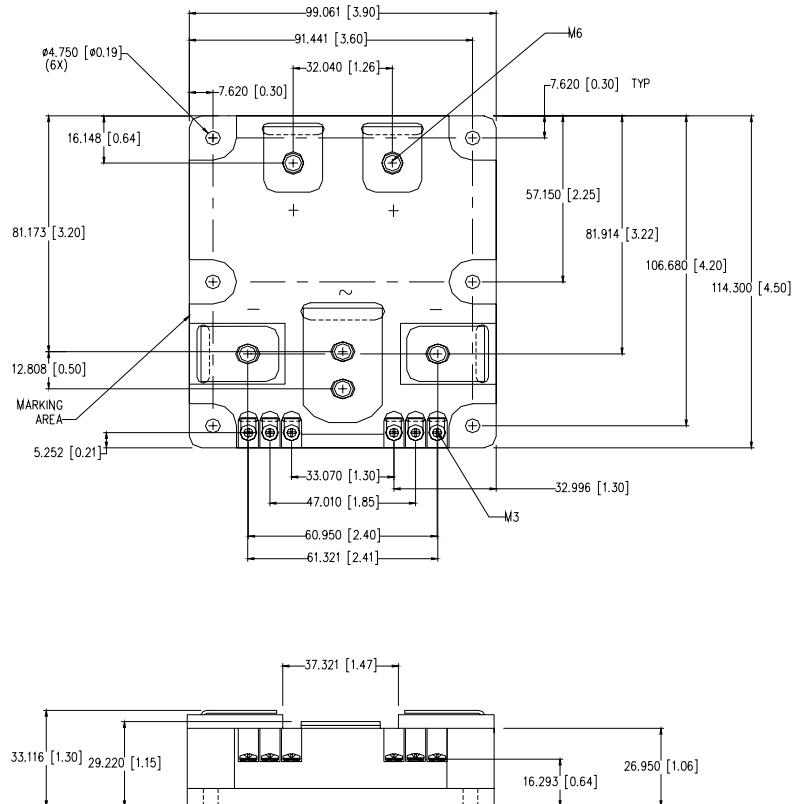
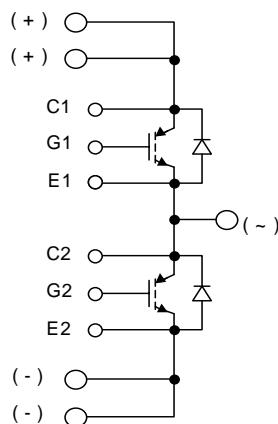
All ratings are at $T_A = 25^\circ\text{C}$ unless otherwise specified.

Symbol	Test Conditions	Min.	Typ.	Max.	Units
$V_{CE(sat)}$	$V_{ge} = 15\text{V}$, pulsed $t_{on} = 100\text{us}$, $f = 10\text{Hz}$ $I_c = 450\text{A}$ $T_c = 25^\circ\text{C}$	-	1.9	2.3	V
$V_{GE(th)}$	$I_c = 4\text{mA}$, $V_{ge} = V_{ce}$	4.5	-	6.0	V
I_{CES}	$V_{ce} = 600\text{V}$, $V_{ge} = 0\text{V}$	-	-	3.0	mA
I_{GES}	$V_{ce} = 0\text{V}$, $V_{ge} = 20\text{V}$ $V_{ce} = 0\text{V}$, $V_{ge} = 20\text{V}$, $T_c = 125^\circ\text{C}$	-	-	600 20	nA mA
E_{ts}	Total Switching Energy $V_{ge} = 15\text{V}$ $V_{cc} = 300\text{V}$, $I_c = 450\text{A}$,	-	30	-	mJ
C_{iss}	$V_{ce} = 25\text{V}$	-	42	-	nF
C_{oss}	$V_{ge} = 0\text{V}$	-	8.2	-	nF
C_{rss}	$f = 1\text{MHz}$	-	7	-	nF
$t_{d(on)}$	$V_{ce} = 300\text{V}$	-	120	180	ns
t_r	$I_c = 450\text{A}$	-	100	220	ns
$t_{d(off)}$	$V_{ge} = + / - 15\text{V}$	-	375	750	ns
t_f	$R_g = 1.0\text{ Ohm}$	-	150	320	ns
Diode					
V_F	$I_F = 450\text{A}$	-	1.4	1.7	V
t_{RR}	$I_F = 450\text{A}$; $V_R = 300\text{V}$, $di/dt = 1000\text{A/usec}$	-	-	150	ns

SENSITRON

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MECHANICAL DIMENSIONS: in inches / mmSCHEMATIC

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