

# “HALF-BRIDGE” IGBT

**$V_{CES} = 1200V$**   
 **$I_c = 100A$**   
 **$V_{CE(ON)} \text{ typ.} = 1.7V$**   
**@ $I_c = 100A$**

### Feature

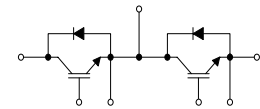
- IGBT New Technology
- Low  $V_{CE}$  (sat)
- Low Turn-off losses
- Short tail current
- Positive temperature coefficient

### Application

- AC & DC Motor controls
- General purpose inverters
- Optimized for high current inverter (AC TIG Welding machines)
- Servo Controls
- UPS, Robotics



Package : V1



### Absolute Maximum Ratings @ $T_j = 25^\circ C$ (Per Leg)

Symbol	Parameter	Condition	Ratings	Unit
$V_{CES}$	Collector-to-Emitter Voltage	$V_{GE} = 0V, I_c = 4mA$	1200	V
$I_c$	Continuous Collector Current		100	A
$I_{cpuls}$	Pulsed collector current, $t_p$ limited by $T_{jmax}$		300	A
$V_{GE}$	Gate emitter voltage		$\pm 20$	V
$V_{iso}$	Isolation Voltage test	AC @ 1 minute	2500	V
$T_j$	Junction Temperature		-40 ~ 150	$^\circ C$
Weight	Weight of Module		190	g
$T_{stg}$	Storage Temperature		-40 ~ 125	$^\circ C$
Md	Mounting torque with screw M5		2.0	N.m
	Terminal connection torque		2.0	N.m

### Static Characteristics @ $T_j = 25^\circ C$ (unless otherwise specified)

Parameters		Min	Typ	Max	Unit	Test conditions
$V_{(BR)CES}$	Collector-to-Emitter Breakdown Voltage	1200	—	—	V	$V_{GE} = 0V, I_c = 3mA$
$V_{CE(ON)}$	Collector-to-Emitter Saturation Voltage	1.4	1.7	2.1		$I_c = 100A, V_{GE} = 15V$
$V_{GE(th)}$	Gate Threshold Voltage	5.0	5.8	6.5		$V_{CE} = V_{GE}, I_c = 4mA$
$I_{CES}$	Zero Gate Voltage Collector Current	—	—	13.4	$\mu A$	$V_{GE} = 0V, V_{CE} = 1200V$
$I_{GES}$	Gate-to-Emitter Leakage Current	—	—	600	nA	$V_{CE} = 0V, V_{GE} = 20V$
$R_{GINT}$	Integrated gate resistor	—	7.5	—	$\Omega$	

**Electrical Characteristic Values (IGBT / DIODE) @ T<sub>j</sub> = 25°C (unless otherwise specified)**

Parameters		Min	Typ	Max	Unit	Test conditions
C <sub>iss</sub>	Input capacitance	—	7210	—	pF	V <sub>CE</sub> = 25V , V <sub>GE</sub> = 0V f = 1 MHz
C <sub>oss</sub>	Output capacitance	—	377	—		
C <sub>rss</sub>	Reverse transfer capacitance	—	327	—		
t <sub>d(on)</sub>	Turn-on delay time	—	285	—	ns	T <sub>j</sub> = 125°C , V <sub>CC</sub> = 600V I <sub>c</sub> = 100A , V <sub>GE</sub> = ±15V R <sub>G</sub> = 3.9Ω
t <sub>r</sub>	Rise time	—	45	—		
t <sub>d(off)</sub>	Turn-off delay time	—	520	—		
t <sub>f</sub>	Fall time	—	90	—		
I <sub>R</sub>	Reverse leakage current	—	—	27		V <sub>R</sub> = 600V
V <sub>BR</sub>	Cathode-Anode breakdown Voltage	1200	—	—		I <sub>R</sub> = 4mA
V <sub>f</sub>	Forward voltage drop	1.2	1.6	1.9		I <sub>F</sub> = 100A

※ Data and specifications subject to change without notice.

**Package Outline** (dimensions in mm)

