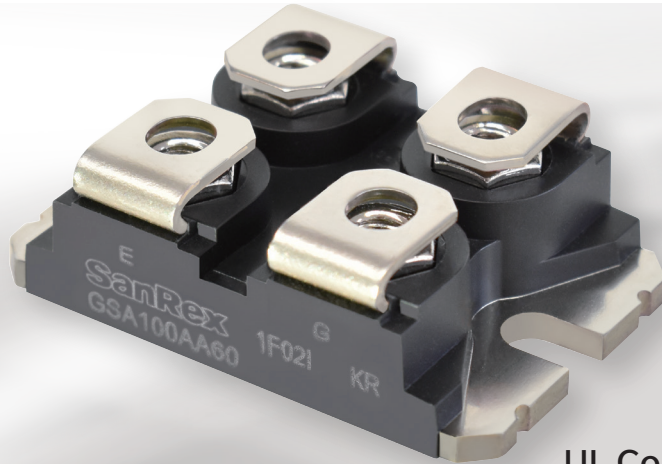
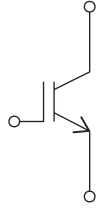



# Insulated Gate Bipolar Transistor

GSA100AA60  
(100A 600V)



UL Compliant   
UL File No.E76102

## Applications

- ▶ AC / DC TIG Welding Equipment
- ▶ Bypass AC Switch (such as UPS)
- ▶ Forward-Reverse pulse power (for surface treatment)

## Features

### ■ Pursuing low loss in the low switching frequency range

Achieves low  $V_{ce(sat)}$  thanks to our original IGBT chip (**1.21V Typ 125°C**)

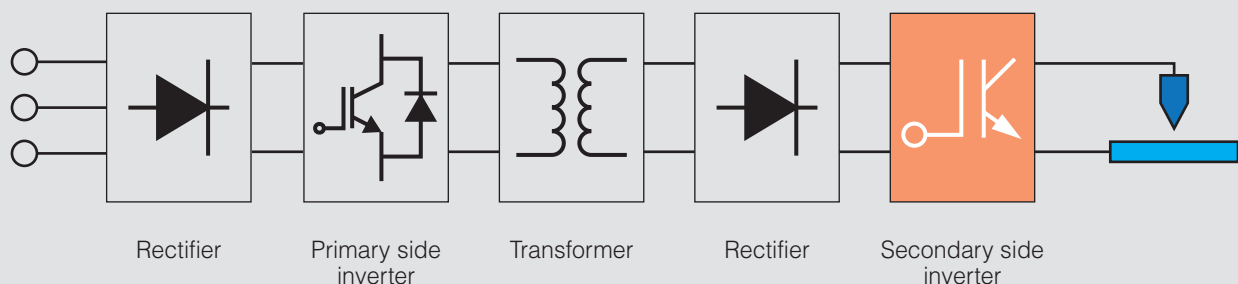
### ■ Compact and reliable package

- Compact and reliable SOT-227 standard package
- Can be directly attached to the heat sink
- Isolation voltage 2500V
- RoHS compliant

## Example

### AC / DC TIG Welding Equipment Configuration

The SOT 227 package contributes to the overall miniaturization of on-board equipment.



## Maximum Ratings

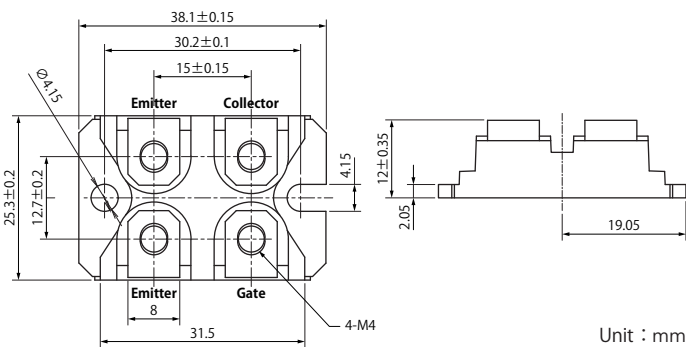
T<sub>j</sub>=25°C unless otherwise specified

Item	Symbol	Unit	Rating	Conditions
Collector-Emitter Voltage	V <sub>CES</sub>	V	600	V <sub>GE</sub> = 0 V
Gate-Emitter Voltage	V <sub>GES</sub>	V	±20	V <sub>CE</sub> = 0 V
Collector Current	I <sub>C</sub>	A	100	V <sub>GE</sub> = 15 V, D.C., T <sub>c</sub> = 113 °C
Total Power Dissipation	P <sub>T</sub>	W	500	T <sub>c</sub> = 25 °C
Operating Junction Temperature	T <sub>j</sub>	°C	-40 ~ +150	
Storage Temperature	T <sub>stg</sub>	°C	-40 ~ +125	
Isolation Voltage	V <sub>ISO</sub>	V	2500	AC RMS 1minute, Terminals to Case

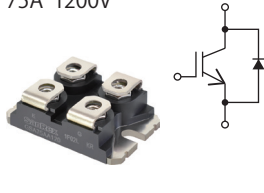

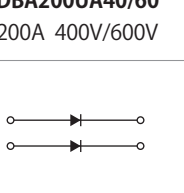
## Electrical Characteristics

T<sub>j</sub>=25°C unless otherwise specified

Item	Symbol	Unit	Rating			Conditions
			Min.	Typ.	Max.	
Gate-Emitter leakage current	I <sub>GES</sub>	μA			10	V <sub>GE</sub> = ±20 V, V <sub>CE</sub> = 0 V
Collector-Emitter Breaking Current	I <sub>CES</sub>	μA			100	V <sub>CE</sub> = 600 V, V <sub>GE</sub> = 0 V
					1000	V <sub>CE</sub> = 600 V, V <sub>GE</sub> = 0 V, T <sub>j</sub> = 125 °C
Collector-Emitter Breakdown Voltage	V <sub>(BR)CES</sub>	V	600			V <sub>GE</sub> = 0 V, I <sub>C</sub> = 100 μA
Gate-Emitter Threshold Voltage	V <sub>GE(th)</sub>	V	5.3	6.0	6.7	V <sub>CE</sub> = 10V, I <sub>C</sub> = 10 mA
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	V		1.25	1.50	I <sub>C</sub> = 100 A, V <sub>GE</sub> = 15 V
				1.21		I <sub>C</sub> = 100 A, V <sub>GE</sub> = 15 V, T <sub>j</sub> = 125 °C
Input Capacity	C <sub>ies</sub>	nF		6.69		V <sub>CE</sub> = 10 V, V <sub>GE</sub> = 0 V, f = 1 MHz
Output Capacity	C <sub>oes</sub>	nF		0.90		
Feedback Capacity	C <sub>res</sub>	nF		0.23		
Thermal Resistance	R <sub>th(j-c)</sub>	°C/W			0.25	



## SOT-227 Package Lineup

IGBT	Fast Recovery Diode	Soft Recovery Diode
<b>GSA75AA120</b> 75A 1200V 	<b>DBA200YA40</b> 200A 400V 	<b>DBA200WA40/60</b> <b>DBA200UA40/60</b> 200A 400V/600V 

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