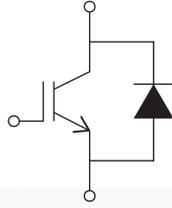


Insulated Gate Bipolar Transistor

GSA75AA120
(75A 1200V)



Applications

- ▶ Welding/Cutting Equipment
- ▶ Induction Heating Power Supply
- ▶ Switching Mode Power Supply
- ▶ Uninterruptible Power Supply (UPS)

UL Compliant 
UL File No.E76102

Features

■ Excellent high-speed performance (40~70 kHz)

The module embeds high-speed performance IGBT along with a high-speed diode optimally designed for it.

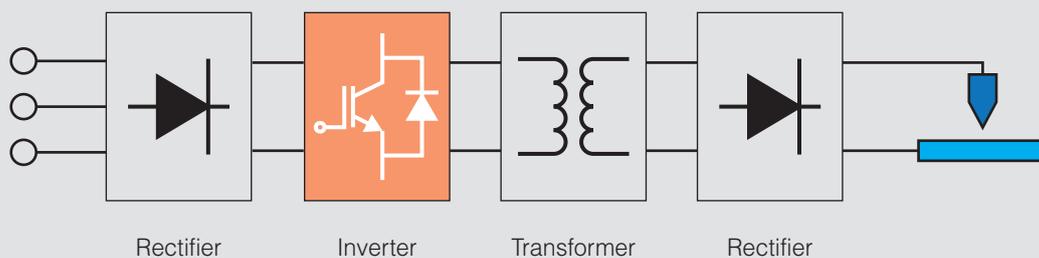
■ Compact and reliable package

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

Example

Welding Equipment Configuration

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



Maximum Ratings

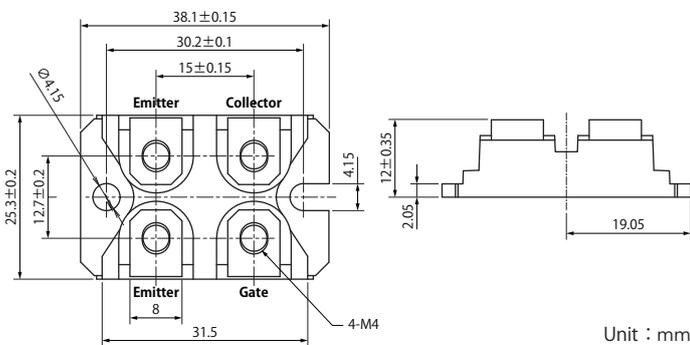
T_j=25°C unless otherwise specified

Item	Symbol	Unit	Rating	Conditions
Collector-Emitter Voltage	V _{CEs}	V	1200	V _{GE} = 0 V
Gate-Emitter Voltage	V _{GES}	V	±20	V _{CE} = 0 V
Collector Current	DC	I _c	75	V _{GE} = 15 V, D.C., T _c = 69 °C
	Pulse	I _{cP}	150	V _{GE} = 15 V, Pulse(1ms), T _c = 150 °C
Collector reverse current	-I _c	A	60	T _c = 67 °C
Total Power Dissipation	IGBT	P _T	W	T _c = 25 °C
	FRD		W	T _c = 25 °C
Operating Junction Temperature	T _j	°C	-40 ~ +150	
Storage Temperature	T _{stg}	°C	-40 ~ +125	
Isolation voltage	V _{ISO}	V	2500	AC RMS 1minute, Terminals to Case

Electrical Characteristics

T_j=25°C unless otherwise specified

Item	Symbol	Unit	Rating			Conditions
			Min.	Typ.	Max.	
Gate-Emitter leakage current	I _{GES}	μA			1.0	V _{GE} = ±20 V, V _{CE} = 0 V
Collector-Emitter Breaking Current	I _{CEs}	μA			100	V _{CE} = 1200 V, V _{GE} = 0 V
				300	2000	V _{CE} = 1200 V, V _{GE} = 0 V, T _j = 125 °C
Gate-Emitter Threshold Voltage	V _{GE(th)}	V	4.9	5.6	6.3	V _{CE} = 10V, I _c = 7.5 mA
Collector-Emitter Saturation Voltage	V _{CE(sat)}	V	2.7	3.3	3.9	I _c = 75 A, V _{GE} = 15 V
				4.2		I _c = 75 A, V _{GE} = 15 V, T _j = 125 °C
Emitter-Collector Voltage	V _{ECS}	V	3.5	4.4	5.1	-I _c = 75A, V _{GE} = 0 V
				2.9		-I _c = 75A, V _{GE} = 0 V, T _j = 125 °C
Input Capacity	C _{ies}	nF		5.5		
Output Capacity	C _{oes}	nF		0.8		
Feedback Capacity	C _{res}	nF		0.3		
Thermal Resistance	IGBT-Case	R _{th(j-c)}	°C/W		0.25	
	FRD-Case				0.50	



SOT-227 Package Lineup

IGBT	Fast Recovery Diode	Soft Recovery Diode
GSA100AA60 100A 600V	DBA200YA40 200A 400V	DBA200WA40/60 DBA200UA40/60 200A 400V/600V

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