

**Features :**

- High speed switching
- Voltage drive
- Low inductance module structure

**Typical Applications :**

- Inverter for Motor Drive
- Inverter welding machines
- Uninterruptible Power Supply
- Industrial machines

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VALUE			UNIT
			Min	Type	Max	
V <sub>CES</sub>	Collector-Emitter voltage	T <sub>j</sub> =25°C			1250	V
V <sub>GES</sub>	Gate-Emitter voltage	T <sub>j</sub> =25°C			±30	V
I <sub>C</sub>	Collector current	Continuous@ T <sub>C</sub> =100°C			300	A
I <sub>CP</sub>		T <sub>P</sub> = 1ms			600	A
P <sub>C</sub>	Collector power dissipation	T <sub>j</sub> =175°C , 1 device			1363	W
T <sub>j</sub>	Junction temperature	/			175	°C
T <sub>stg</sub>	Storage temperature	/	-40		125	°C
V <sub>iso</sub>	Isolation between terminal and copper base	T <sub>j</sub> =25°C , AC: 1minute	2500			V
Screw torque	Mounting(M6)	/	3.5		5.0	N·m
	Terminals(M6)	/	3.5		5.0	N·m
I <sub>CES</sub>	Zero gate voltage collector current	T <sub>j</sub> =25°C , V <sub>CE</sub> =1200V, V <sub>GE</sub> =0V			1.0	mA
I <sub>GES</sub>	Gate-Emitter leakage current	T <sub>j</sub> =25°C , V <sub>CE</sub> =0V, V <sub>GE</sub> =±20V			±2	µA
V <sub>GE(th)</sub>	Gate-Emitter threshold voltage	T <sub>j</sub> =25°C , V <sub>CE</sub> =20V, I <sub>C</sub> =150mA	4.5		8.5	V
V <sub>CE(sat)</sub>	Collector-Emitter saturation voltage	T <sub>j</sub> =25°C , V <sub>GE</sub> =15V, I <sub>C</sub> =300A		2.00	2.40	V
		T <sub>j</sub> =125°C , V <sub>GE</sub> =15V, I <sub>C</sub> =300A		2.10		V
		T <sub>j</sub> =150°C , V <sub>GE</sub> =15V, I <sub>C</sub> =300A		2.25		V
C <sub>ies</sub>	Input capacitance	T <sub>j</sub> =25°C , V <sub>CE</sub> =10V, V <sub>GE</sub> =0V, f=1MHz		25.2		nF
t <sub>on</sub>	Turn-on time	T <sub>j</sub> =150°C , V <sub>CC</sub> =600V, I <sub>C</sub> =300A, V <sub>GE</sub> =±15V, R <sub>gin</sub> =1.8Ω, R <sub>gext</sub> =1.5Ω, Inductive load		150		ns
t <sub>r</sub>				60		ns
t <sub>off</sub>	Turn-off time			680		ns
t <sub>f</sub>				250		ns
E <sub>on</sub>	Turn-on energy			30		mJ
E <sub>of</sub>	Turn-off energy			28		mJ
E <sub>rr</sub>	Reverse recovery energy			26		mJ
t <sub>sc</sub>	Short circuit withstand time		T <sub>j</sub> =150°C , V <sub>CC</sub> =720V, V <sub>GE</sub> =± 15V, R <sub>gxt</sub> =1.5Ω	10		
V <sub>F</sub>	Forward on voltage	T <sub>j</sub> =25°C , I <sub>F</sub> =300A		2.25	2.60	V
		T <sub>j</sub> =125°C , I <sub>F</sub> =300A		2.20		V
		T <sub>j</sub> =150°C , I <sub>F</sub> =300A		2.10		V
t <sub>rr</sub>	Reverse recovery time	T <sub>j</sub> =125°C , I <sub>F</sub> =300A		150		ns
		T <sub>j</sub> =150°C , I <sub>F</sub> =300A		160		ns
R <sub>th(j-c)</sub>	Thermal resistance(per chip)	IGBT			0.11	°C/W
		FWD			0.16	°C/W
R <sub>th(c-f)</sub>	Contact thermal resistance (per module)	With thermal compound		0.01		°C/W
W <sub>t</sub>	Weight				310	g
Outline	<b>M39</b>					

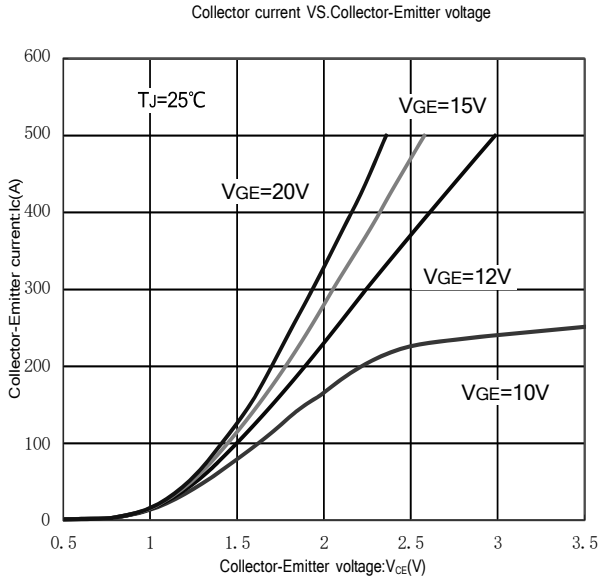


Fig.1



Fig.2

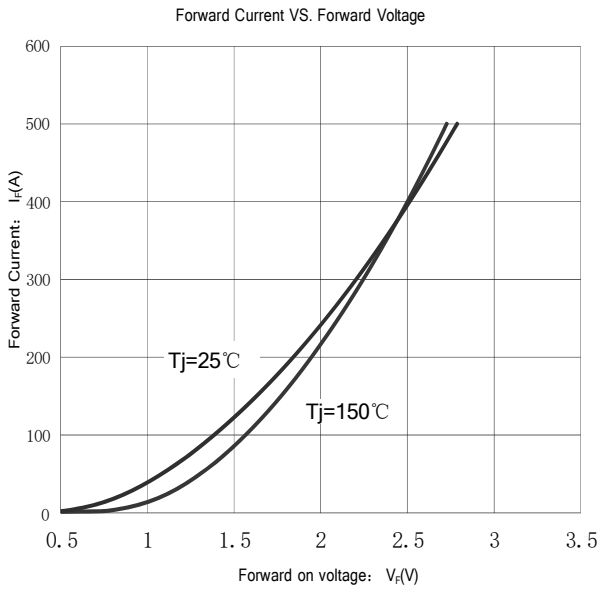


Fig.3

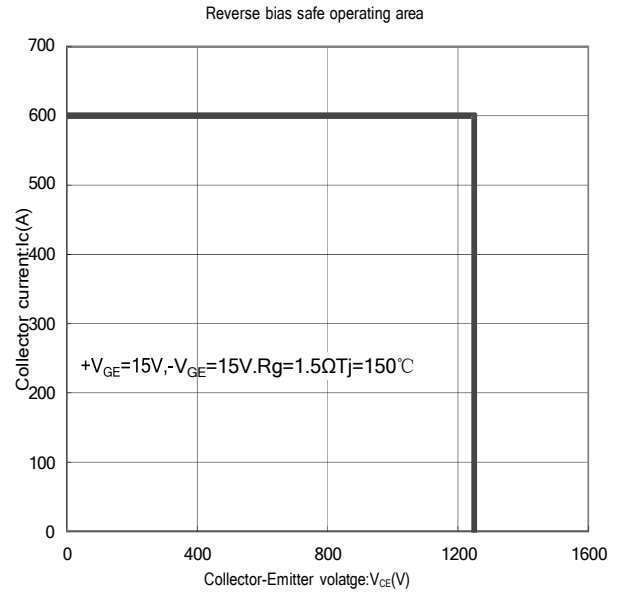


Fig.4

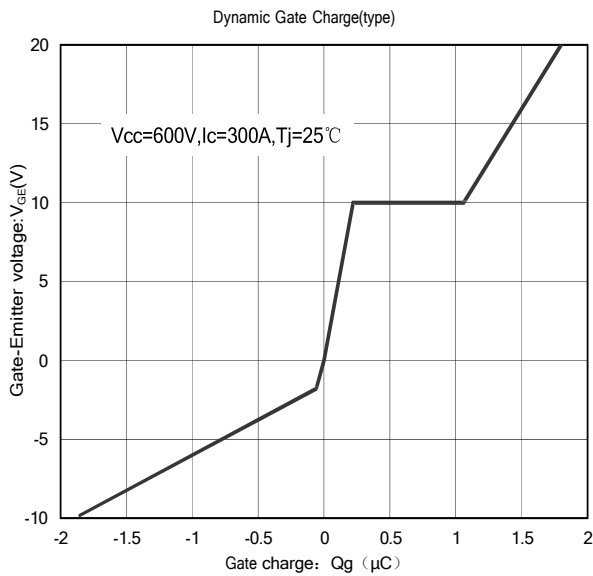


Fig.5

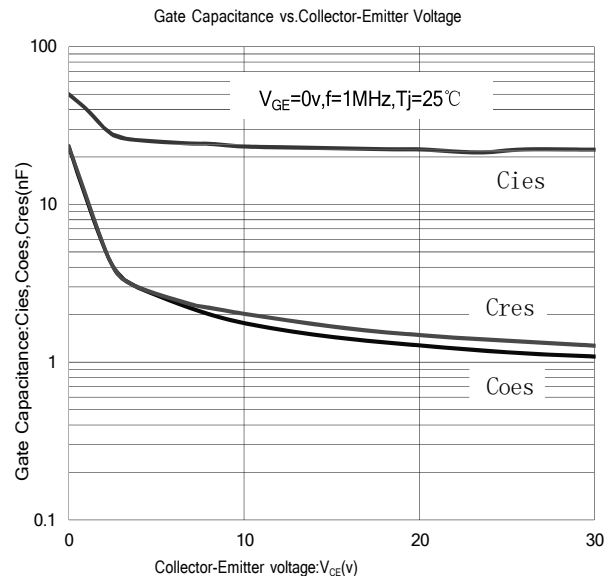


Fig.6

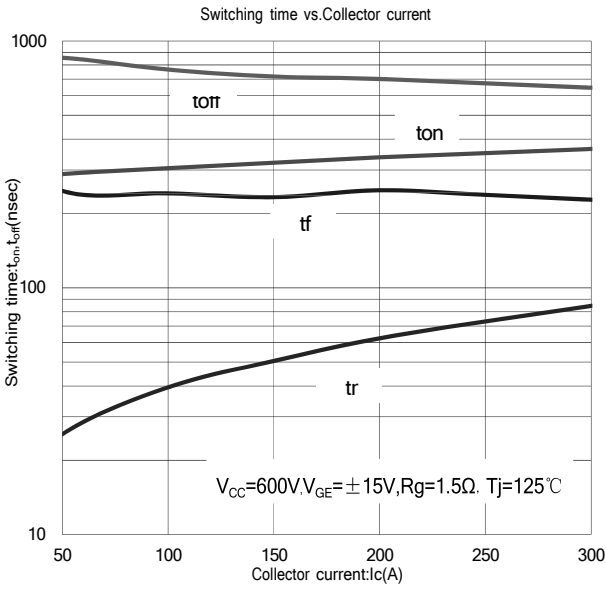


Fig.7

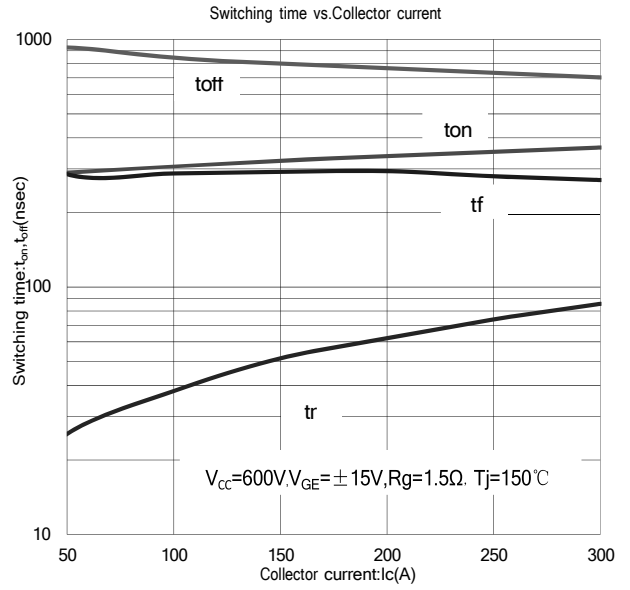


Fig.8

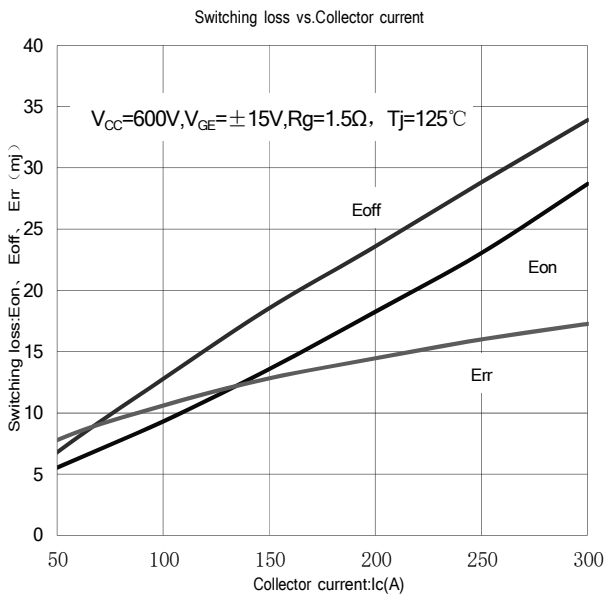


Fig.9

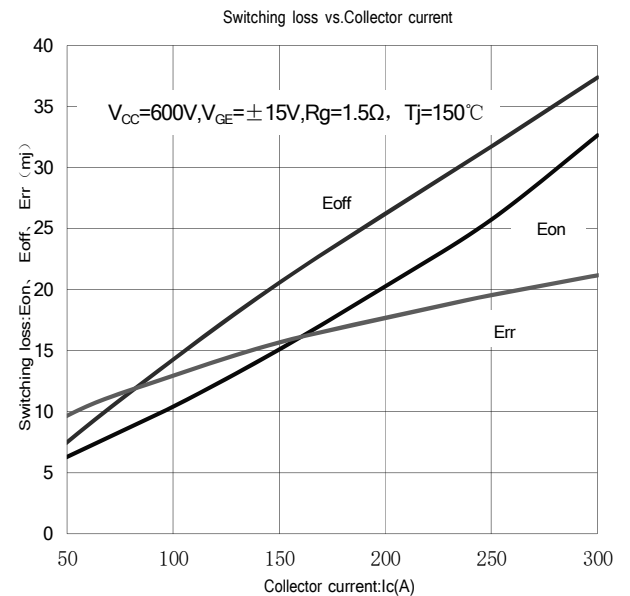


Fig.10

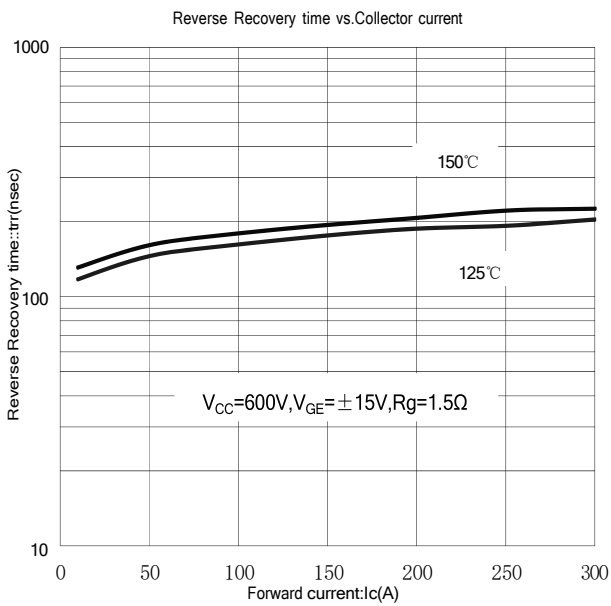


Fig.11

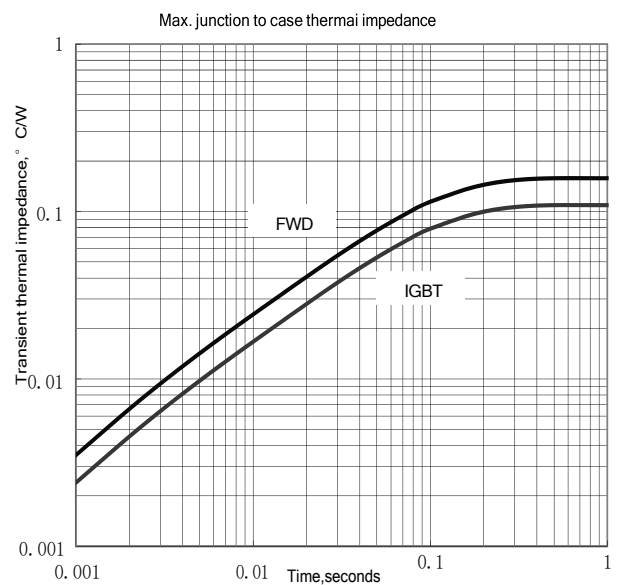
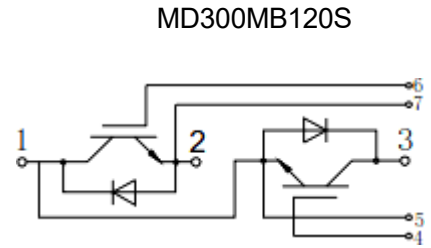
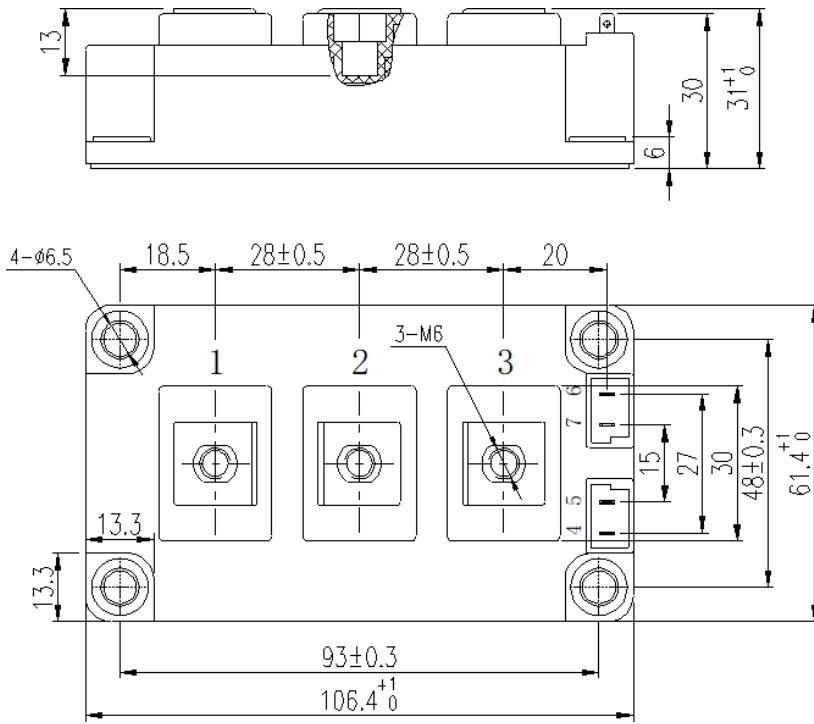


Fig.12

Outline & Circuit Diagram



Unmarked dimensional tolerance: ±0.5mm