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.	Typ.	Max.	
V_{CES}	Collector-Emitter voltage	T_j=25°C			1250	V
V_{GES}	Gate-Emitter voltage	T_j=25°C			±30	V
I_C	Collector current	Continuous@ T_C =100°C			100	A
I_{CP}		t_p=1ms			200	A
P_C	Collector power dissipation	T_C=25°C ,1 device			500	W
T_j	Junction temperature	/			175	℃
$T_{vj(op)}$	Temperature under switching conditions	$T_{vj\ op}$ > 150℃ is only allowed for operation at overload conditions.	-40		175	℃
T_{stg}	Storage temperature	/	-40		125	℃
V_{iso}	Isolation between terminal and copper base	T_j=25°C ,AC：1minute	2500			V
Screw torque	Mounting(M6)	/	3.5		5.0	N·m
	Terminals(M5)	/	2.4		3.0	N·m
I_{CES}	Zero gate voltage collector current	T_j=25°C ,V_{CE}=1200V，V_{GE}=0V			1	mA
I_{GES}	Gate-Emitter leakage current	T_j=25°C ,V_{CE}=0V，V_{GE}=±20V			±2	μA
$V_{GE(th)}$	Gate-Emitter threshold voltage	T_j=25°C ,V_{CE}=20V，I_C=100mA	5		8.5	V
$V_{CE(sat)}$	Collector-Emitter saturation voltage	T_j=25°C ,V_{GE}=15V，I_C=100A		1.75	2.40	V
		T_j=125°C ,V_{GE}=15V，I_C=100A		1.95		V
		T_j=150°C ,V_{GE}=15V，I_C=100A		2.05		V
C_{ies}	Input capacitance	T_j=25°C ,V_{CE}=10V，V_{GE}=0V，f=1MHz		9.1		nF
t_{on}	Turn-on time	T_j=150°C ,V_{CC}=600V，I_C=100A，V_{GE}=±15V，R_G=10Ω，Inductive load		160		ns
t_r				40		ns
t_{off}	Turn-off time			600		ns
t_f				200		ns
tsc	Short Circuit Withstand Time	T_j=150°C ,V_{CC}=720V，V_{GE}=±15V，R_G=10Ω	10			μs
V_F	Forward on voltage	T_j=25°C ,I_F=100A		1.80	2.6	V
		T_j=125°C ,I_F=100A		1.88		V
		T_j=150°C ,I_F=100A		1.95		V
t_{rr}	Reverse recovery time	T_j=125°C ,I_F=100A		135		ns
		T_j=150°C ,I_F=100A		150		ns
$R_{th(j-c)}$	Thermal resistance(1 device)	IGBT			0.30	℃/W
		FWD			0.50	℃/W
$R_{th(c-f)}$	Contact thermal resistance (1 device)	With thermal compound		0.05		℃/W
W_t	Weight				155	g
Outline	M38					

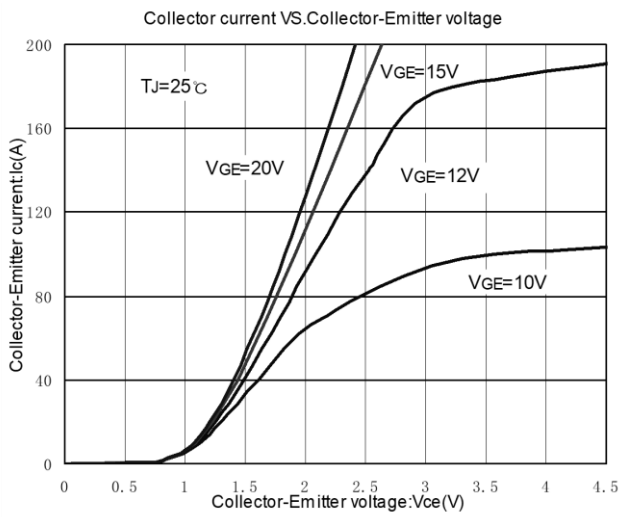


Fig.1

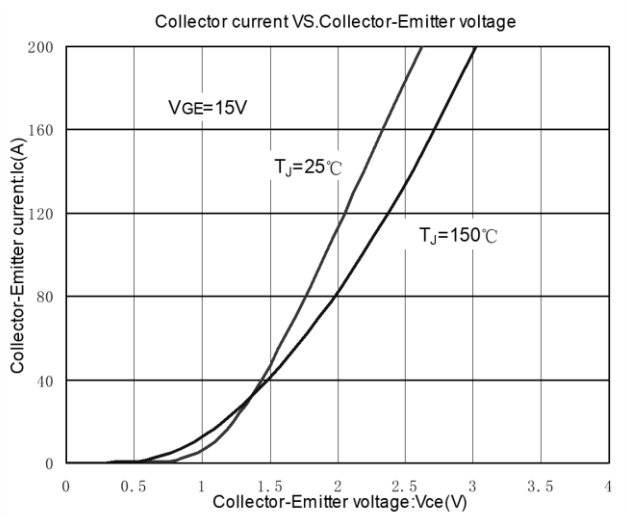


Fig.2

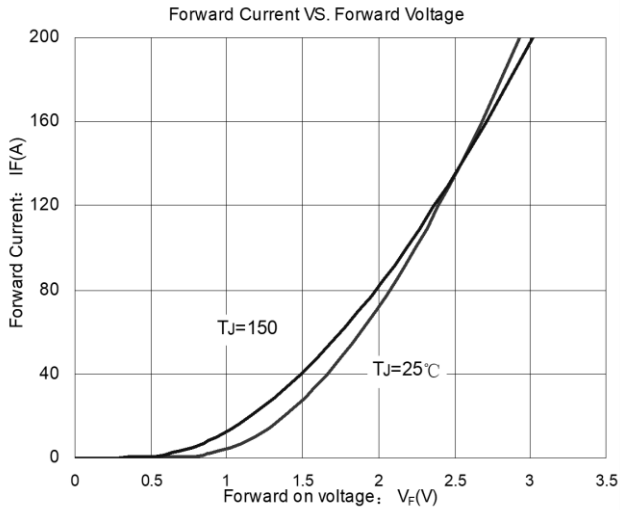


Fig.3

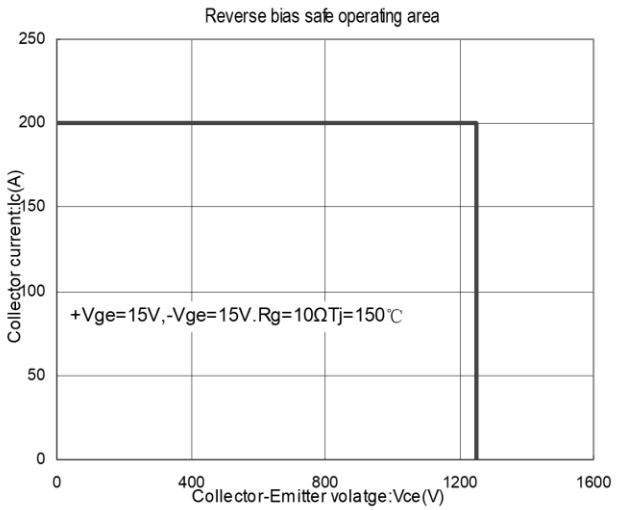


Fig.4

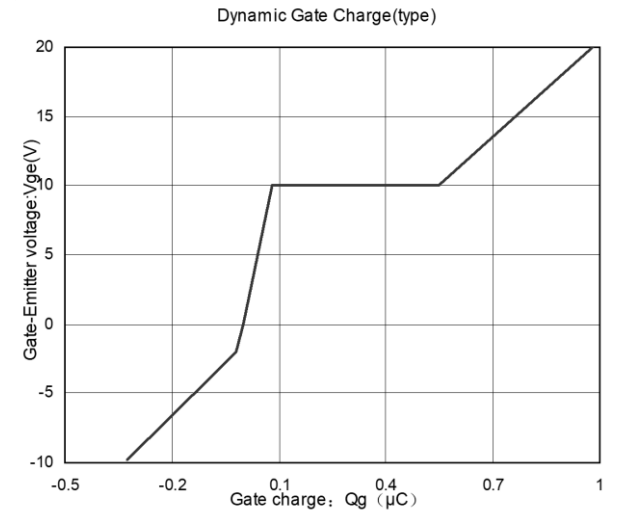


Fig.5

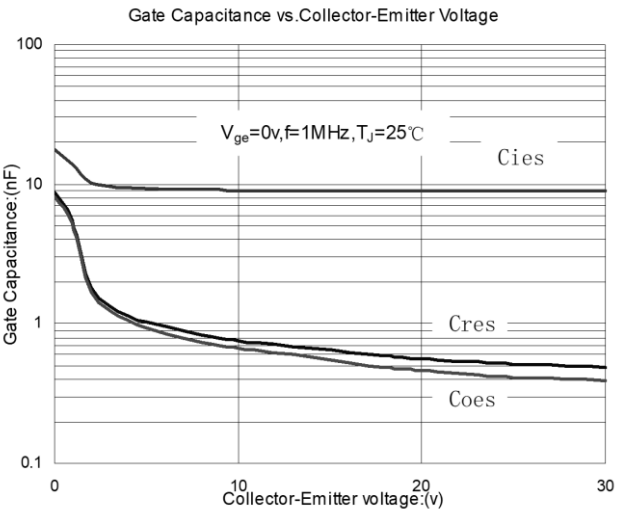


Fig.6

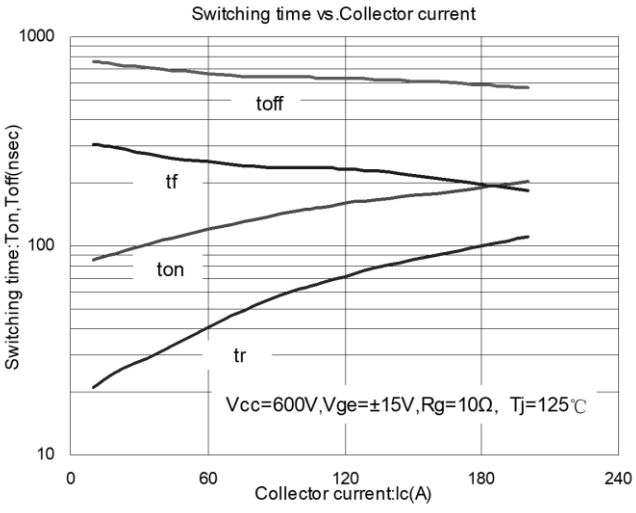


Fig.7

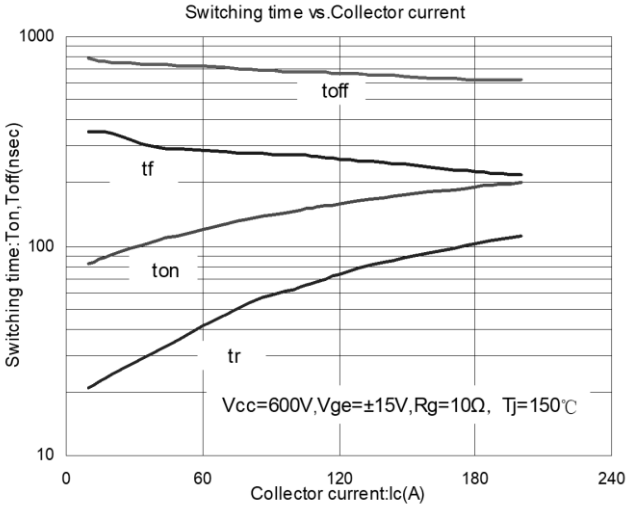


Fig.8

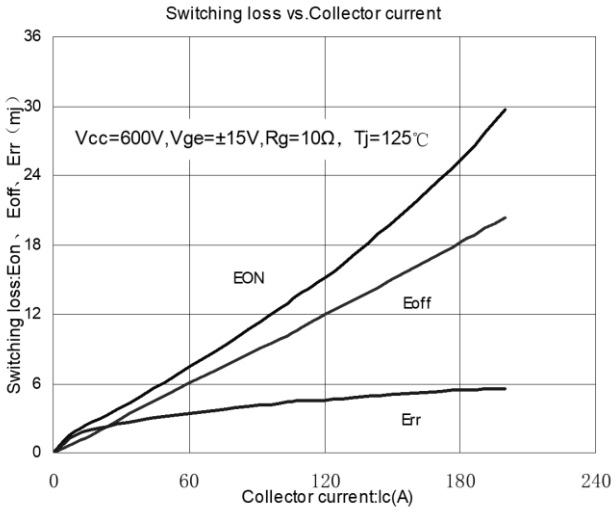


Fig.9

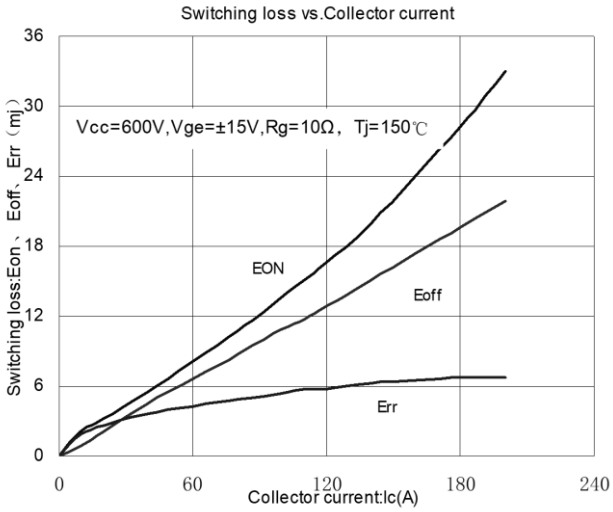


Fig.10

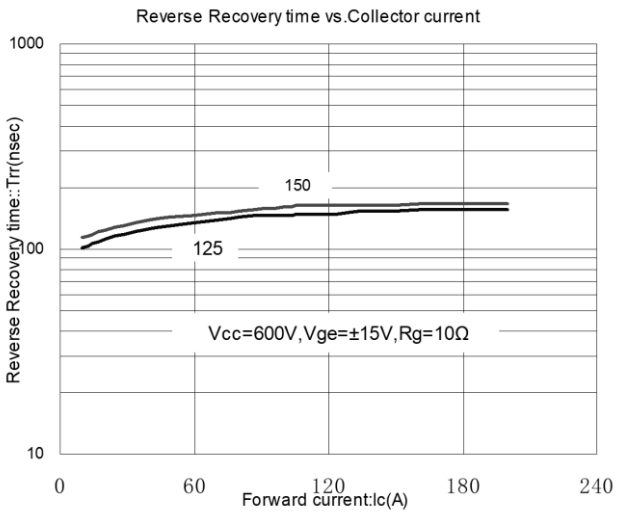


Fig.11

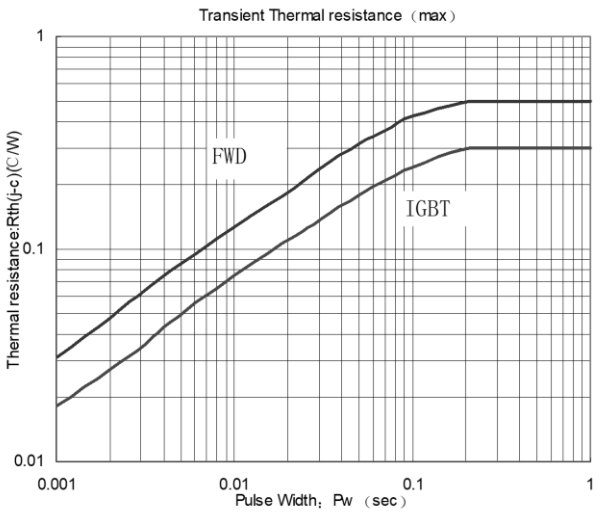
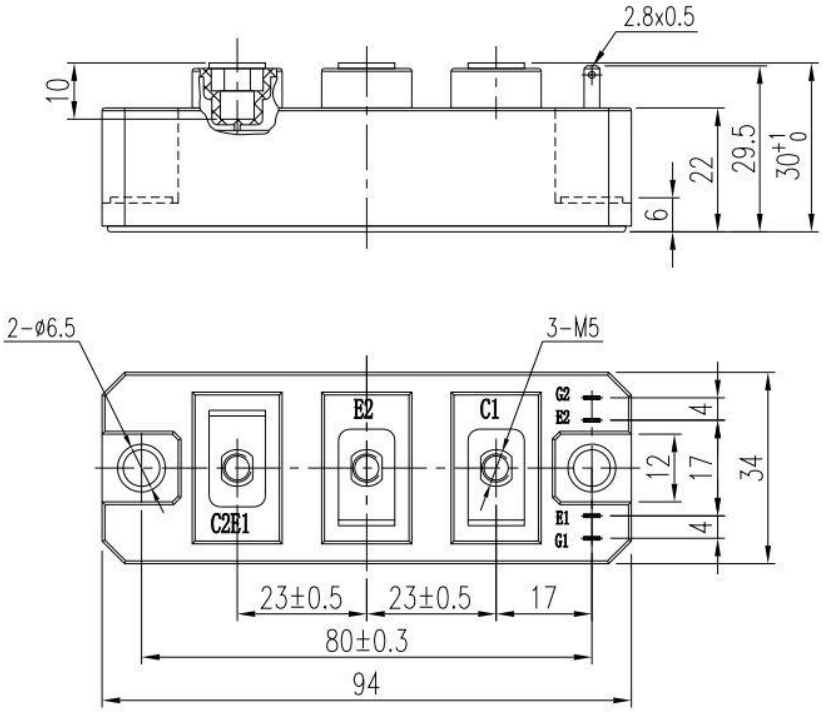
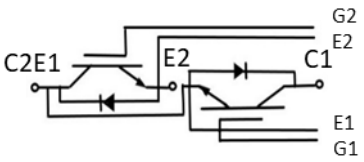


Fig.12



MD100MB120S



Unmarked dimensional tolerance： ±0.5mm