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_{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			400	A
I_{CP}		T_P= 1ms			800	A
P_C	Collector power dissipation	T_j=25°C ,1 device			1471	W
T_j	Junction temperature	/			150	℃
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(M6)	/	3.5		5.0	N·m
I_{CES}	Zero gate voltage collector current	T_j=25°C ,V_{CE}=1200V，V_{GE}=0V			1.0	mA
I_{GES}	Gate-Emitter leakage current	T_j=25°C ,V_{CE}=0V，V_{GE}=±20V			±20	μA
$V_{GE(th)}$	Gate-Emitter threshold voltage	T_j=25°C ,V_{CE}=20V，I_C=150mA	4.5		8.5	V
$V_{CE(sat)}$	Collector-Emitter saturation voltage	T_j=25°C ,V_{GE}=15V，I_C=400A		1.96	2.5	V
		T_j=125°C ,V_{GE}=15V，I_C=400A		2.25		V
		T_j=150°C ,V_{GE}=15V，I_C=400A		2.33		V
C_{ies}	Input capacitance	T_j=25°C ,V_{CE}=10V，V_{GE}=0V，f=1MHz		44.4		nF
t_{on}	Turn-on time	T_j=150°C ,V_{CC}=600V，I_C=400A，V_{GE}=±15V，R_g=1.1Ω，Inductive load		220		ns
t_r				100		ns
t_{off}	Turn-off time			760		ns
t_f				285		ns
tsc	Short circuit withstand time	T_j=150°C ,V_{CC}=720V,V_{GE}=±15V，R_g=1.1Ω	10			μs
V_F	Forward on voltage	T_j=25°C ,I_F=400A		2.28	2.60	V
		T_j=125°C ,I_F=400A		2.26		V
		T_j=150°C ,I_F=400A		2.30		V
t_{rr}	Reverse recovery time	T_j=125°C ,I_F=400A		240		ns
		T_j=150°C ,I_F=400A		280		ns
$R_{th(j-c)}$	Thermal resistance(1 device)	IGBT			0.085	℃/W
		FWD			0.13	℃/W
$R_{th(c-f)}$	Contact thermal resistance (1 device)	With thermal compound		0.050		℃/W
W_t	Weight				322	g
Outline	M39					

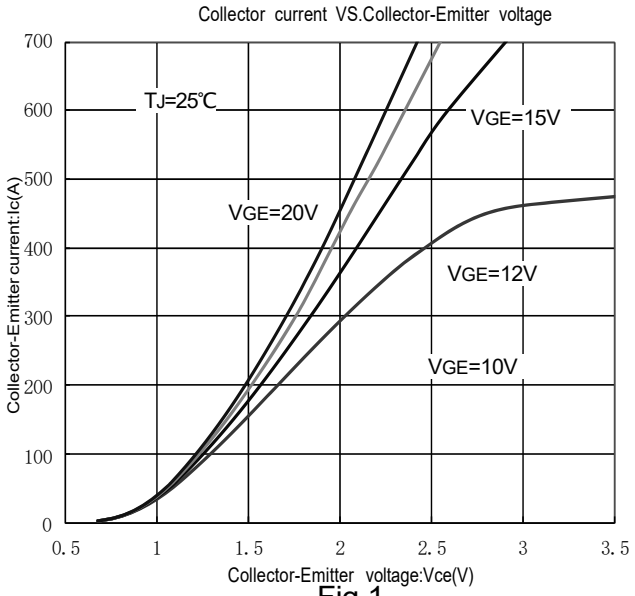


Fig.1

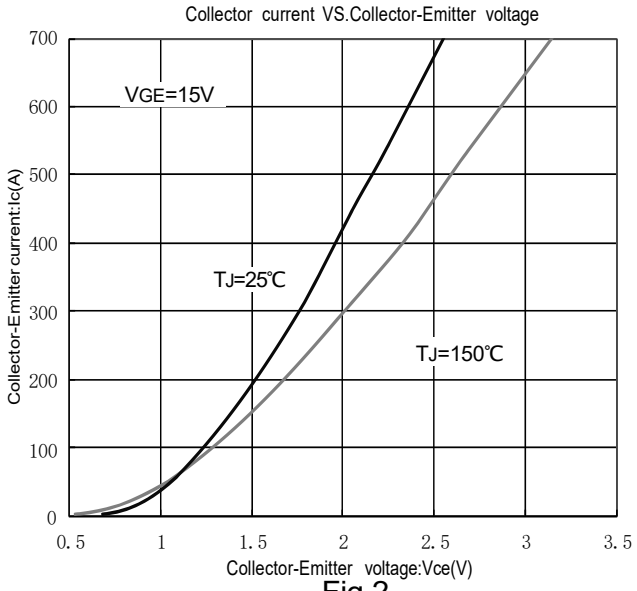


Fig.2

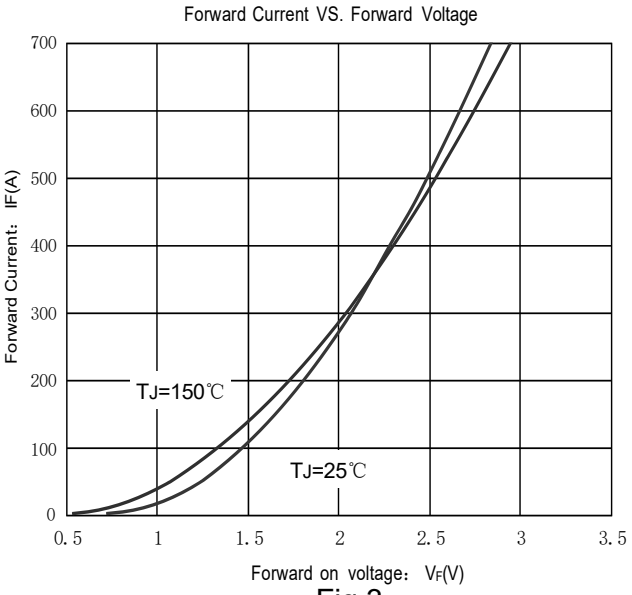


Fig.3

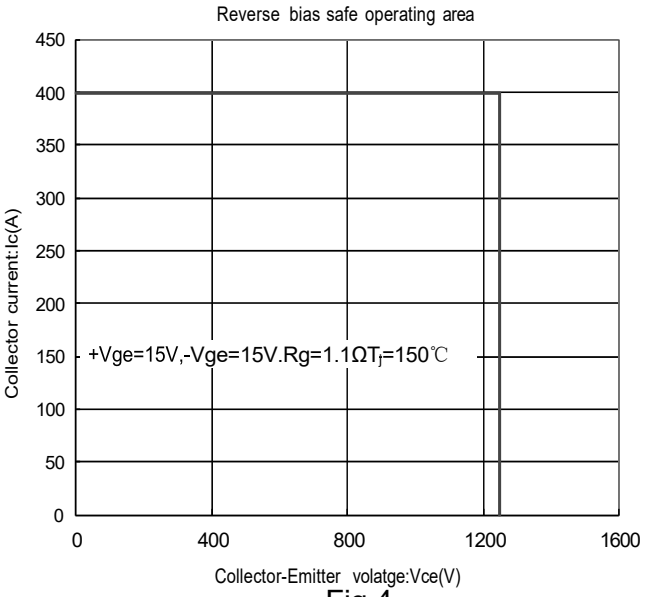


Fig.4

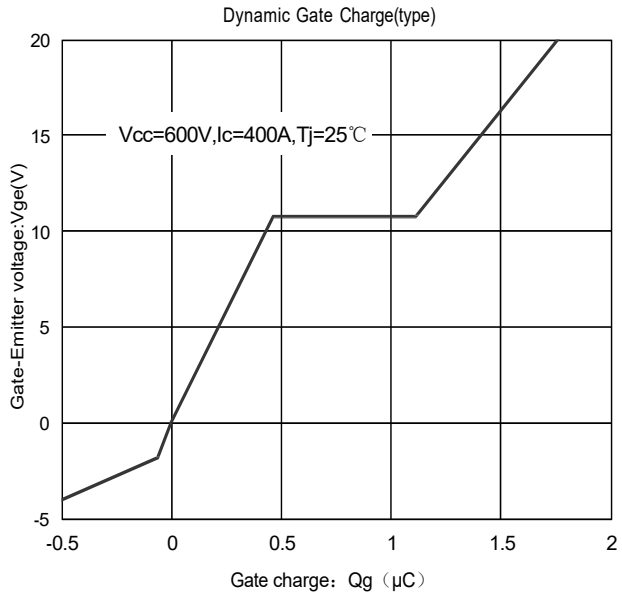


Fig.5

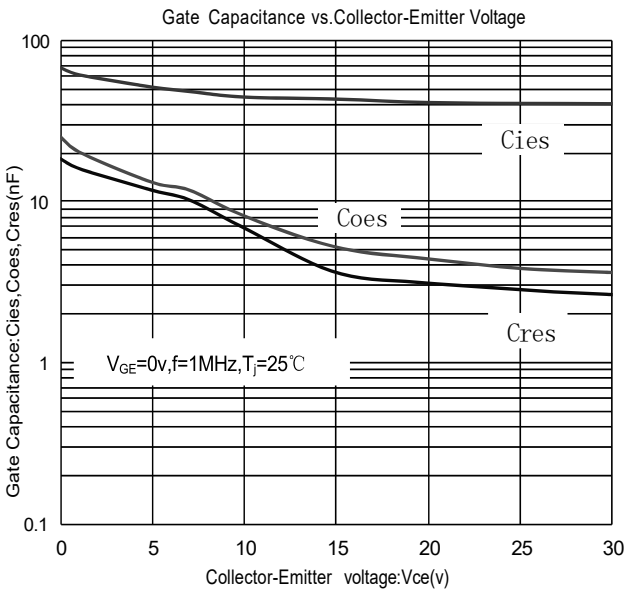


Fig.6

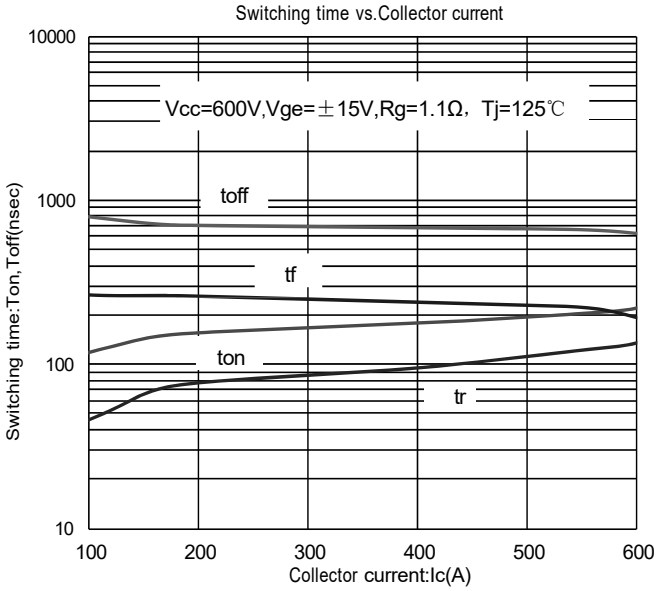


Fig.7

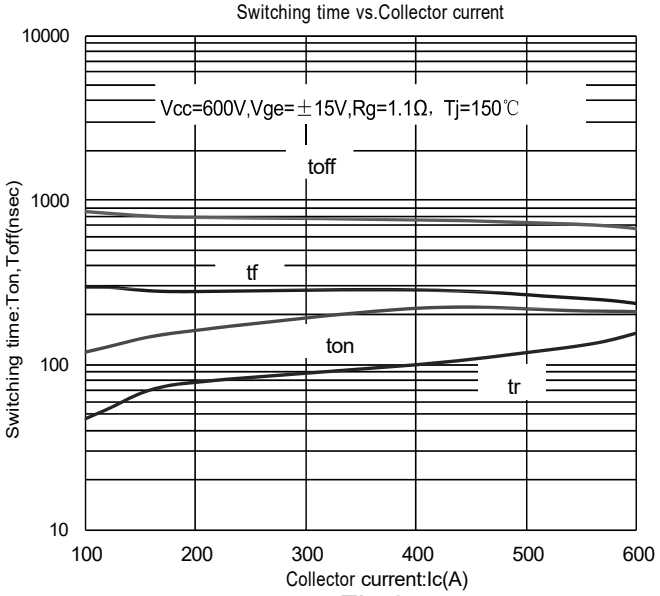


Fig.8

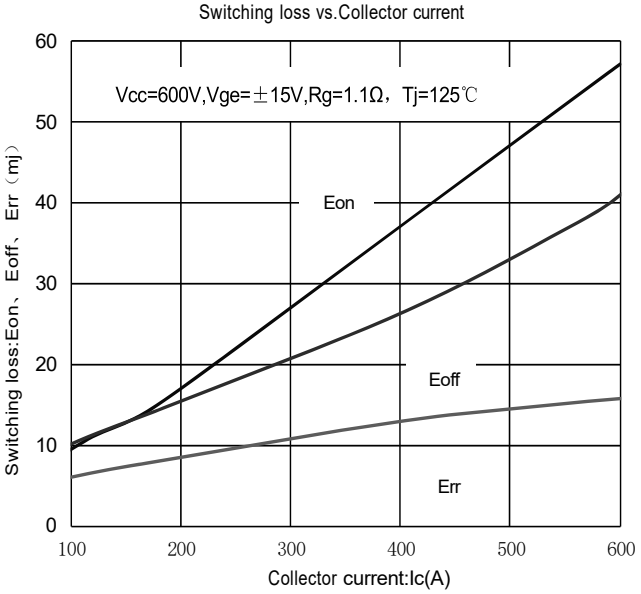


Fig.9

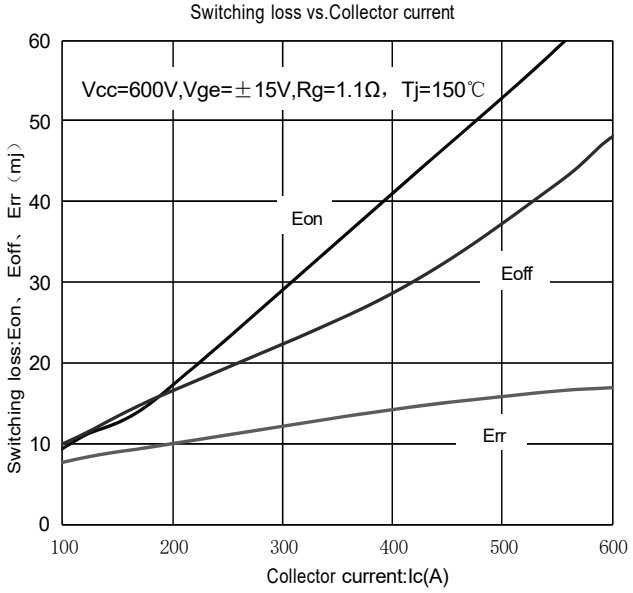


Fig.10

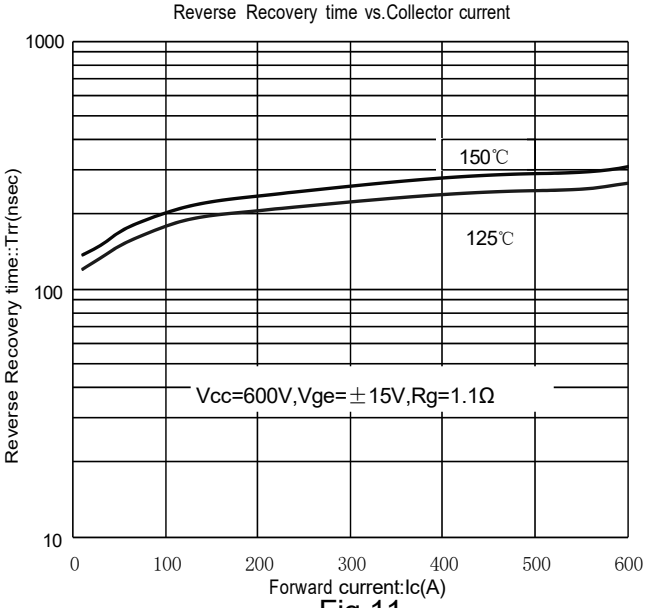


Fig.11

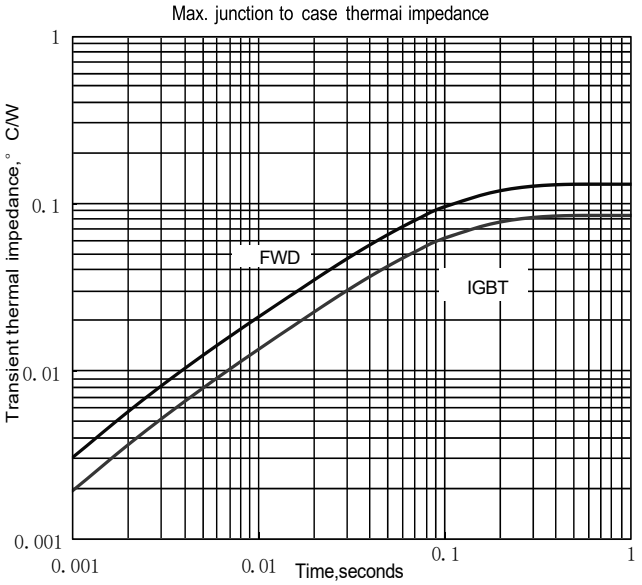
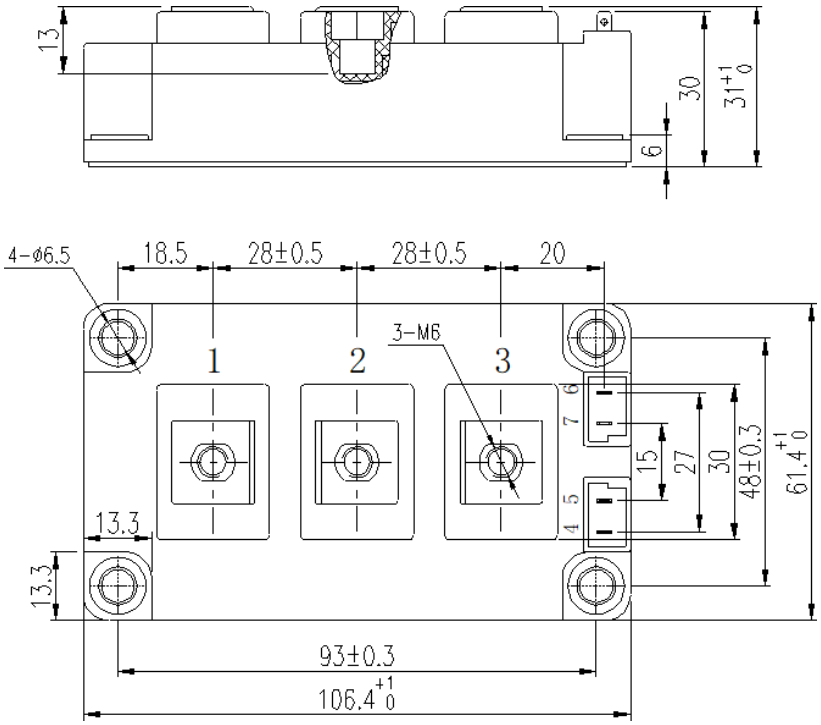
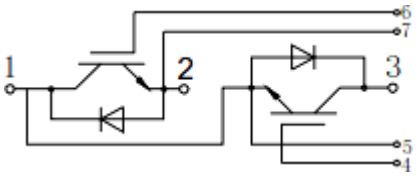


Fig.12

Outline & Circuit Diagram



MD400MB120S



Unmarked dimensional tolerance：±0.5mm