

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			150	A	
I _{CP}		t _p = 1ms			300	A	
P _C	Collector power dissipation	T _J =150°C , 1 device			595	W	
T _J	Junction temperature	/			175	°C	
T _{stg}	Storage temperature	/	-40		125	°C	
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			1.0	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 =150mA	4.5		8.5	V	
V _{CE(sat)}	Collector-Emitter saturation voltage	T _J =25°C , V _{GE} =15V, I _C =150A		1.80	2.40	V	
		T _J =125°C , V _{GE} =15V, I _C =150A		1.95		V	
		T _J =150°C , V _{GE} =15V, I _C =150A		2.25		V	
C _{ies}	Input capacitance	T _J =25°C , V _{CE} =10V, V _{GE} =0V, f=1MHz		12.6		nF	
t _{on}	Turn-on time	T _J =150°C , V _{CC} =600V, I _C =150A, V _{GE} =±15V, R _G =5.1Ω, Inductive load		160		ns	
t _r				50		ns	
t _{off}			Turn-off time		680		ns
t _f					250		ns
t _{sc}	Short circuit withstand time	T _J =150°C , V _{CC} =720V, V _{GE} =± 15V, R _G =5.1Ω	10			µs	
V _F	Forward on voltage	T _J =25°C , I _F =150A		2.10	2.60	V	
		T _J =125°C , I _F =150A		2.00		V	
		T _J =150°C , I _F =150A		1.90		V	
t _{rr}	Reverse recovery time	T _J =125°C , I _F =150A		150		ns	
		T _J =150°C , I _F =150A		160		ns	
R _{th(j-c)}	Thermal resistance(per chip)	IGBT			0.21	°C/W	
		FWD			0.31	°C/W	
R _{th(c-f)}	Contact thermal resistance (per module)	With thermal compound		0.05		°C/W	
W _t	Weight				155	g	
Outline	M38						

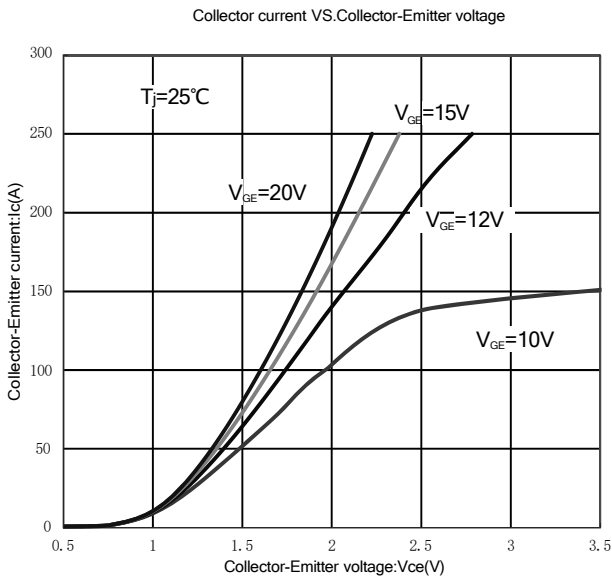


Fig. 1

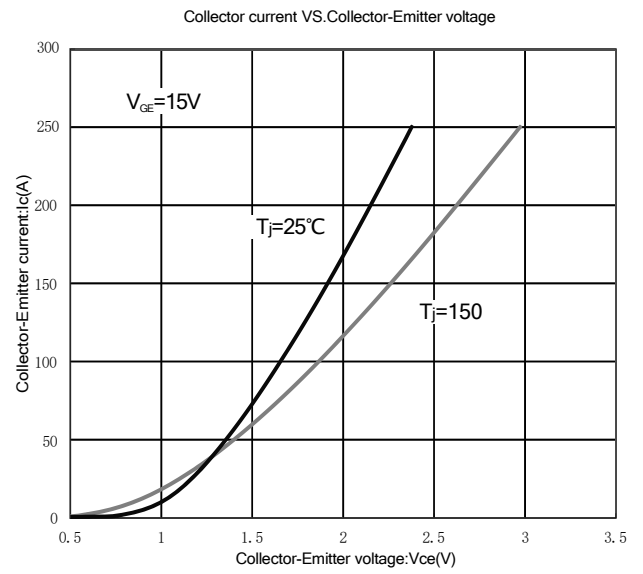


Fig. 2

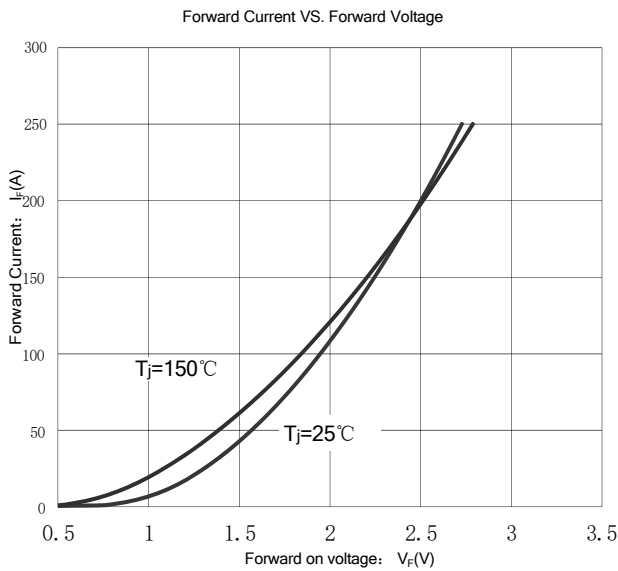


Fig. 3

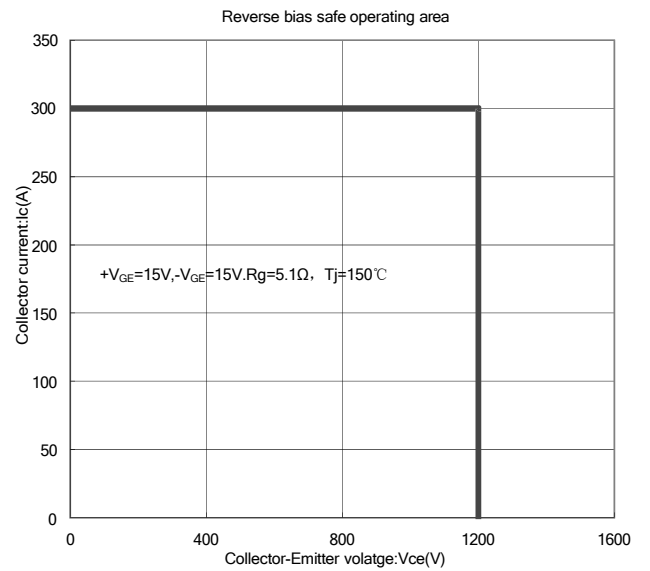


Fig. 4

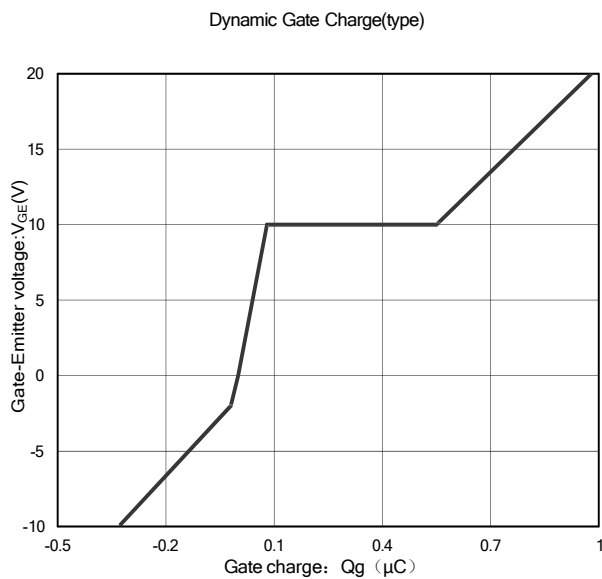


Fig. 5

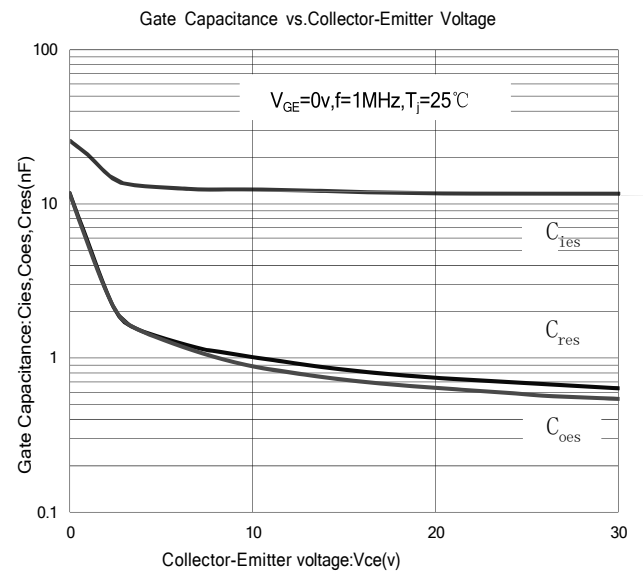


Fig. 6

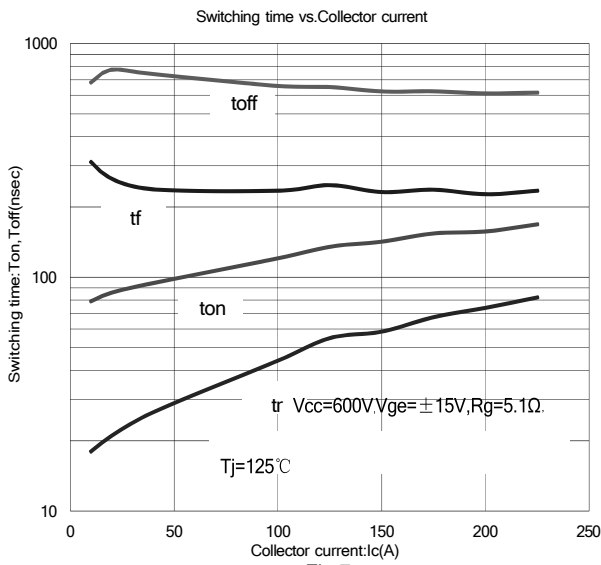


Fig. 7

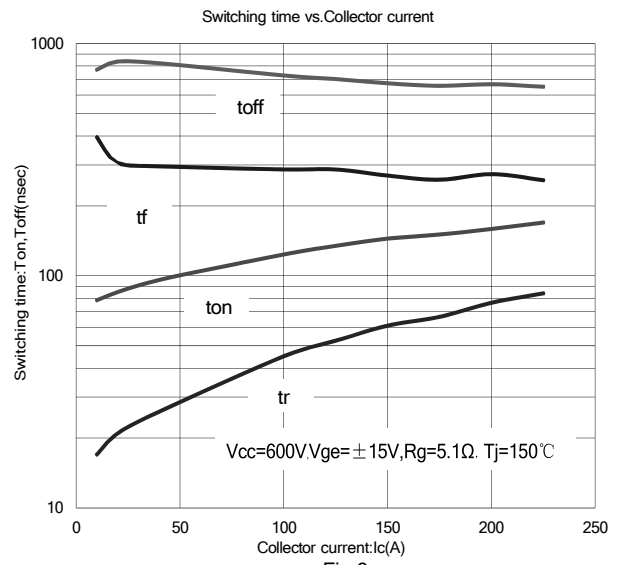


Fig. 8

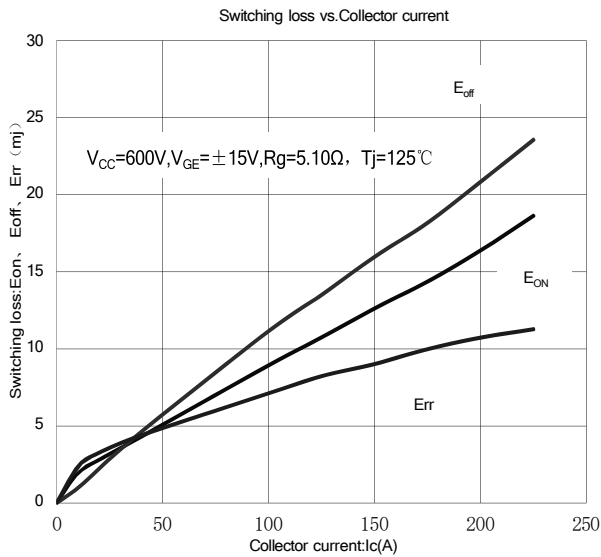


Fig. 9

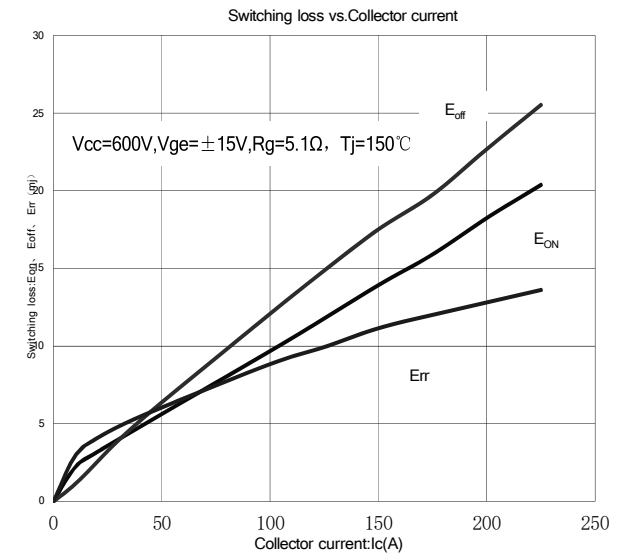


Fig. 10

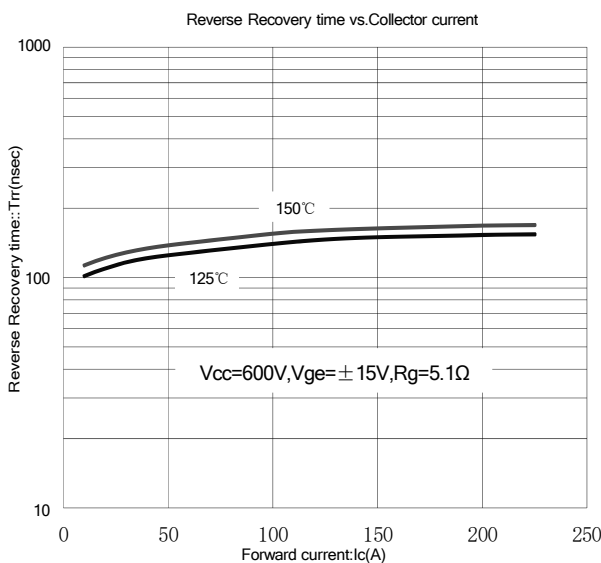


Fig. 11

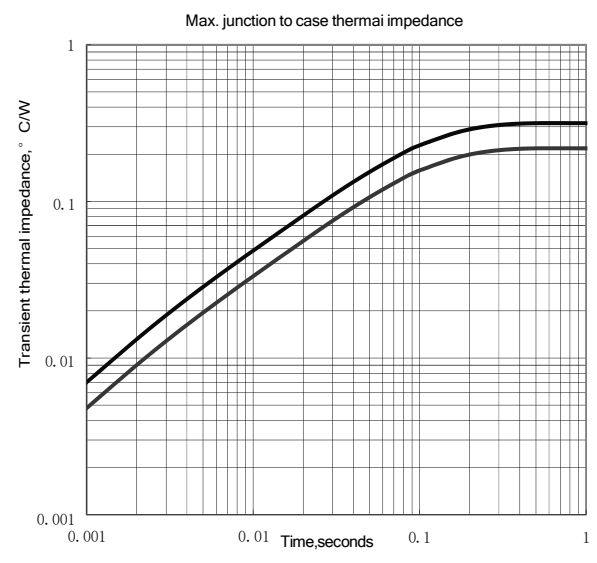
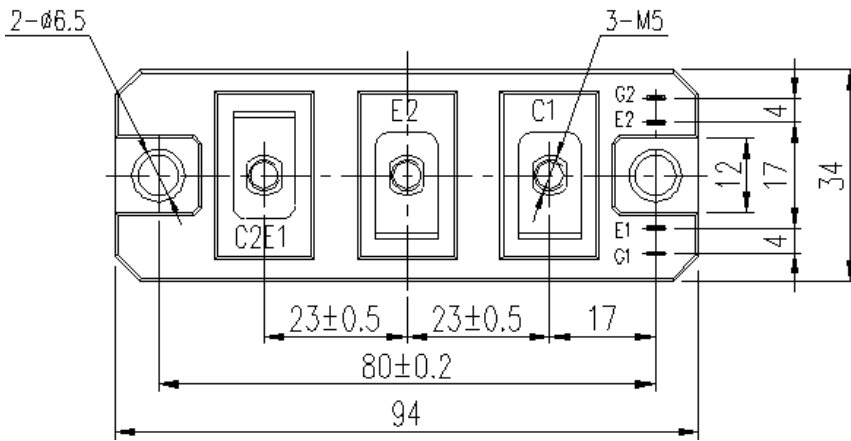
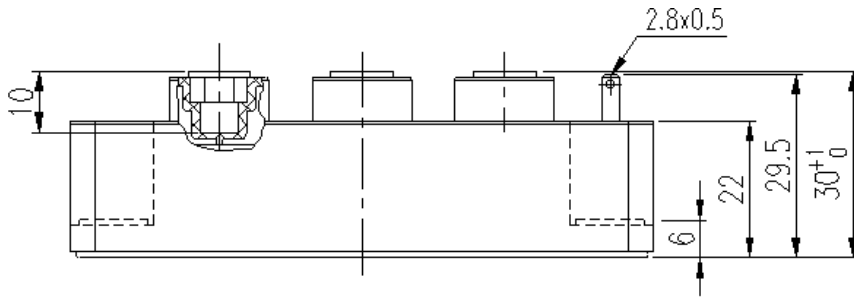


Fig. 12

Outline & Circuit Diagram



Unmarked dimensional tolerance: ±0.5mm

MD150MB120S

