

MRI100.12

2 in 1 IGBT Modules

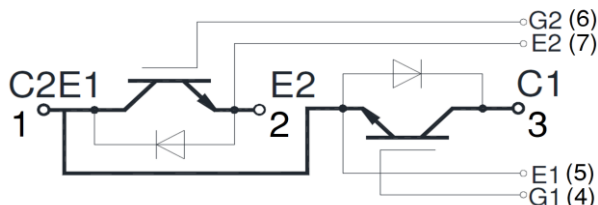


Features:

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

Typical applications:

- Inverter for Motor Drive
- Inverter for Welding machine
- Uninterruptible Power Supply
- Industrial machines



Symbol	Characteristics	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 = 1 ms			200	A
P _C	Collector power dissipation	T _J = 150°C, 1 device			500	W
T _J	Junction temperature	/	-40		+175	°C
T _{stg}	Storage temperature	/	-40		+125	°C
V _{ISO}	Isolation between terminal and copper base	T _J = 25°C, AC: 1 minute	2500			V
Screw torque	Mounting (M6)	/	4.5		6.0	N·m
	Terminals (M5)	/	2.5		4.5	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
E _{on}	Turn-on energy			14		mJ
E _{off}	Turn-off energy			11		mJ
E _{rr}	Reverse recovery energy			5.5		mJ
t _{SC}	Short Circuit withstand time		T _J = 150°C, V _{CC} = 720V, V _{GE} = ±15V, R _G = 10Ω	10		
V _F	Forward on voltage	T _J = 25°C, I _F = 100A		1.80	2.60	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 (per chip)	IGBT			0.30	°C/W
		FWD			0.50	°C/W
R _{th(c-f)}	Contact thermal resistance (per module)	With thermal compound		0.05		°C/W
W _t	Weight				155	g
Outline	251H3					

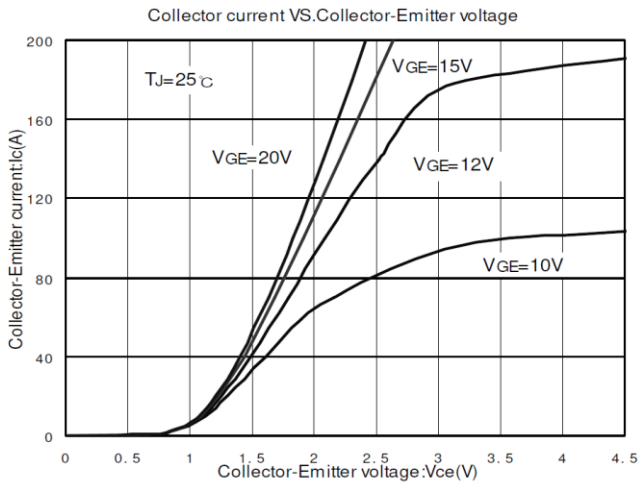


Fig.1

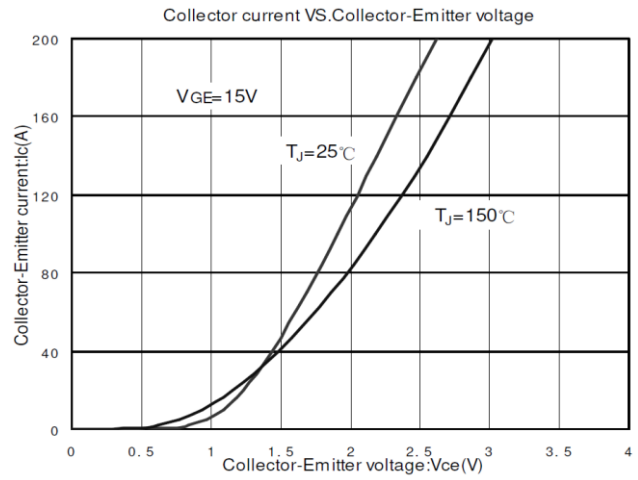


Fig.2

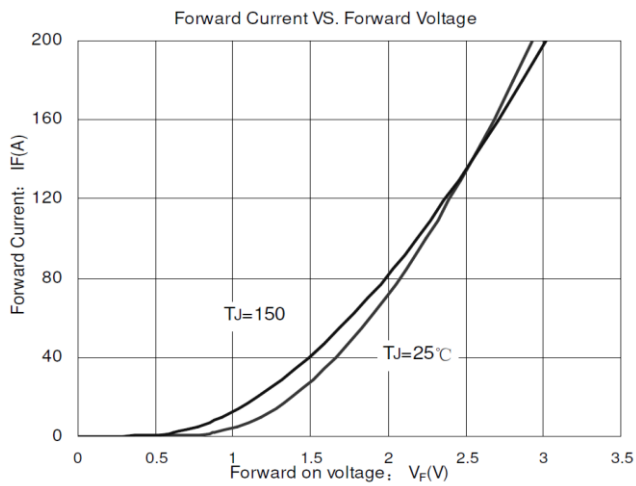


Fig.3

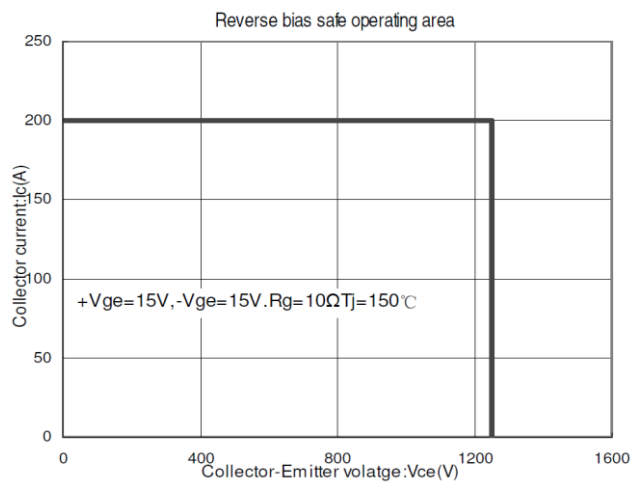


Fig.4

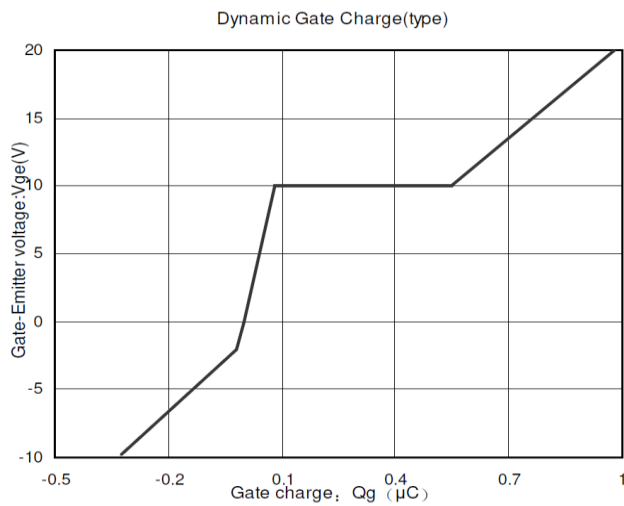


Fig.5

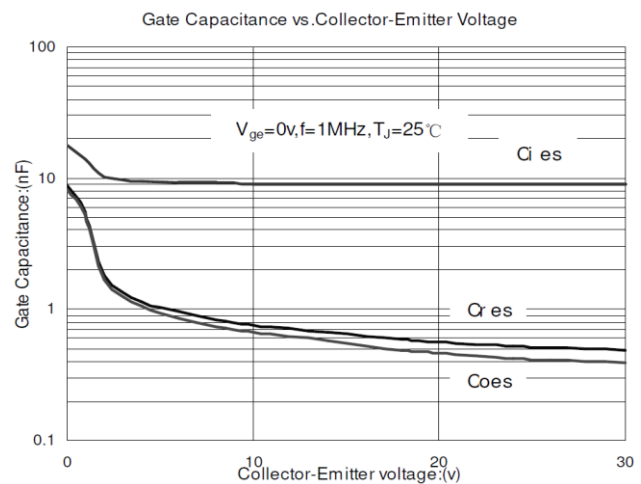


Fig.6

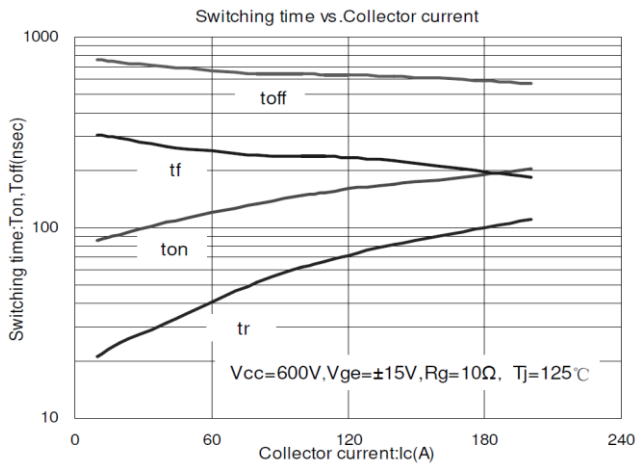


Fig.7

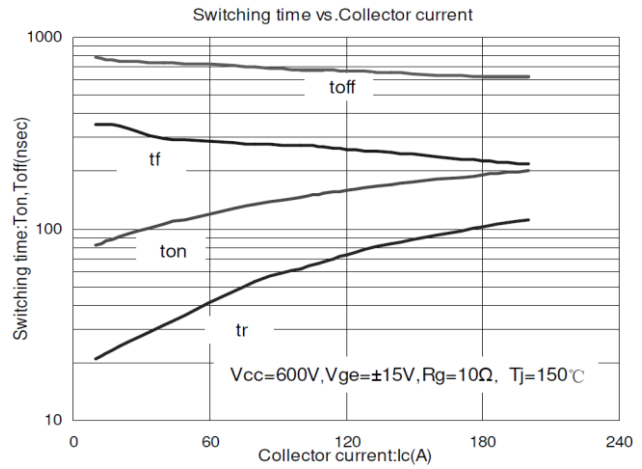


Fig.8

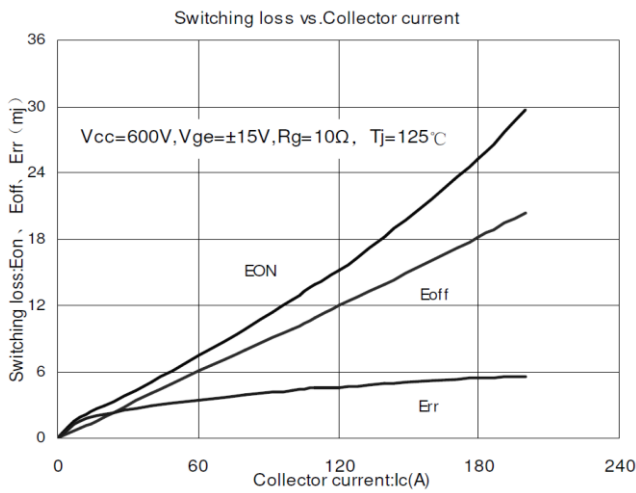


Fig.9

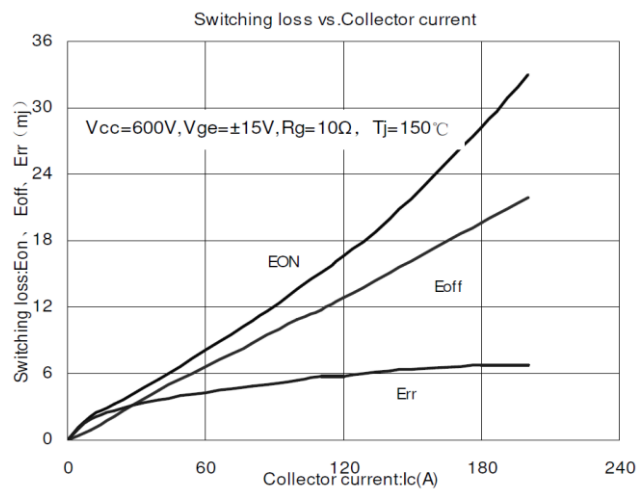


Fig.10

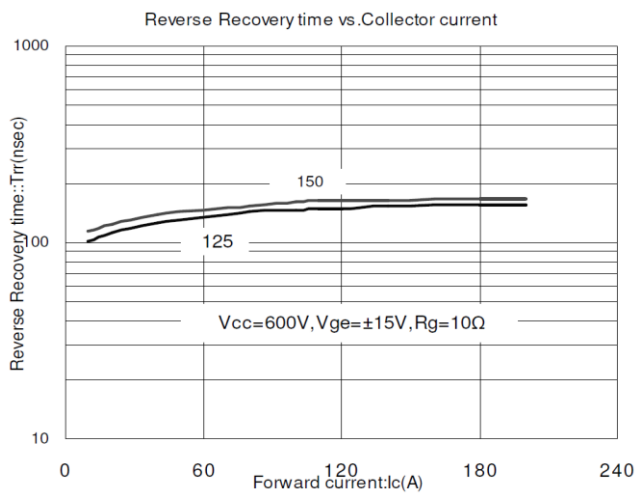


Fig.11

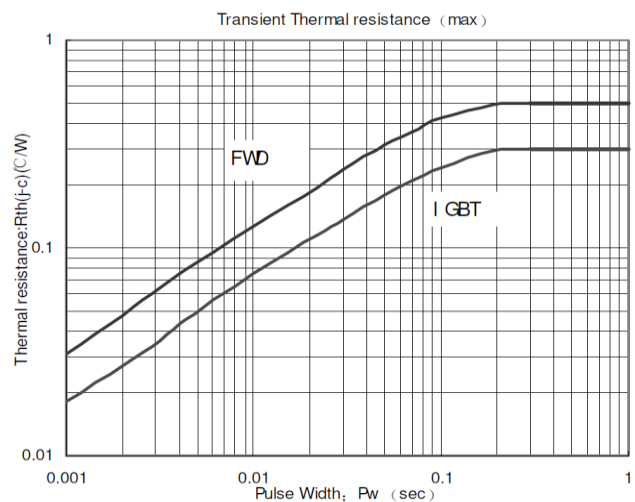
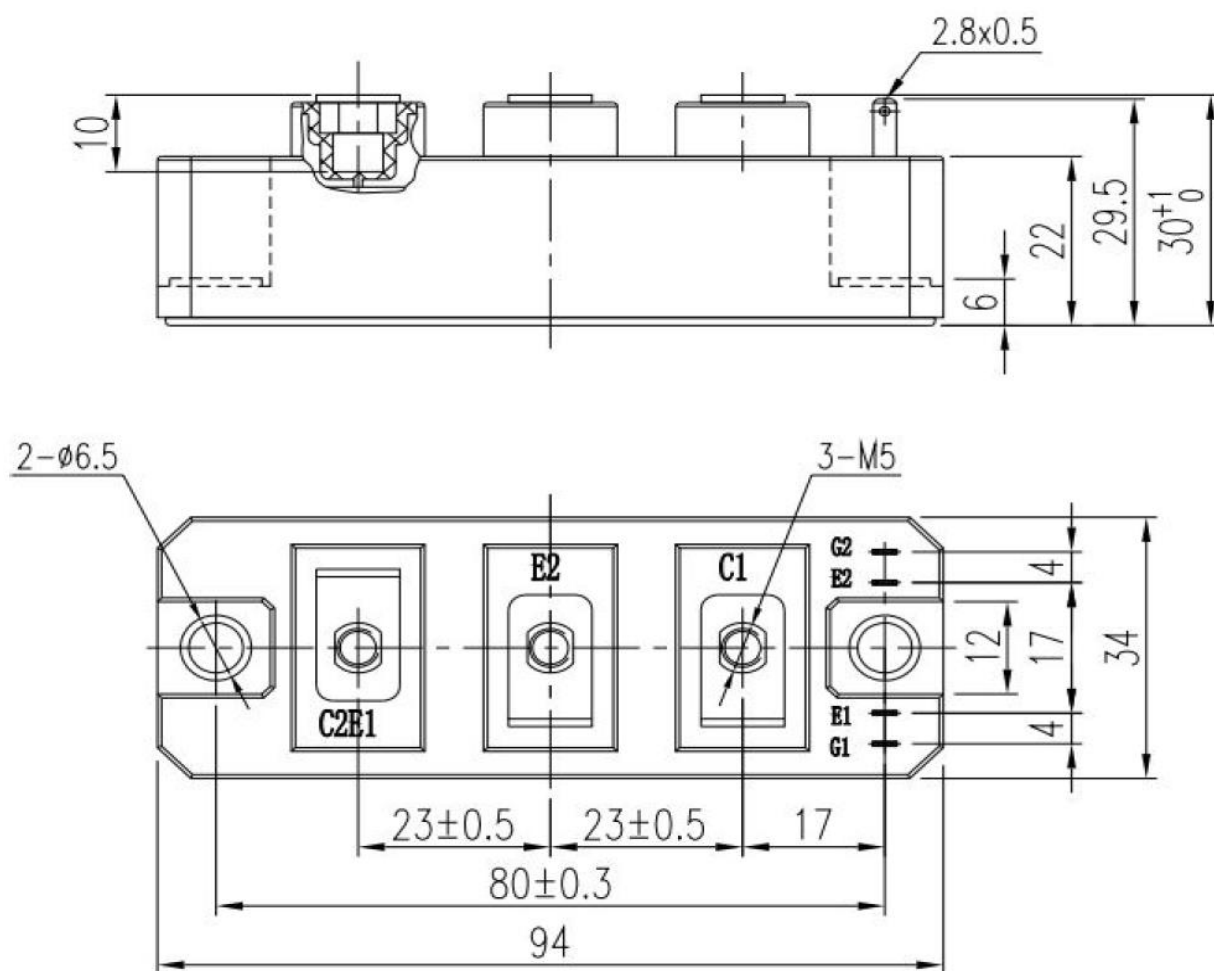


Fig.12

Outline:



(dimensions in mm)

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