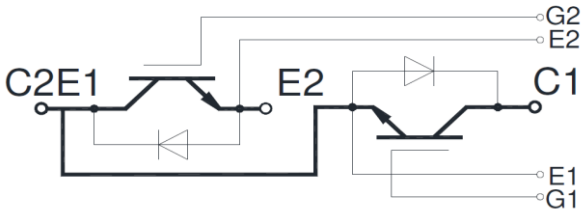
MRI150.12

2 in 1 IGBT Modules

Features:

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



Typical applications:

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

Symbol	Characteristcs	Test Conditions	Value			Unit
			Min	Typ	Max	
V_{CES}	Collector-Emitter voltage	Tj = 25°C			1250	V
V_{GES}	Gate-Emitter voltage	Tj = 25°C			±30	V
I_C	Collector current	Continuous @ T_c = 100 °C			150	A
I_{CP}		T_p = 1 ms			300	A
P_C	Collector power dissipation	Tj = 150°C, 1 device			595	W
T_j	Junction temperature	/	-40		175	°C
T_{stg}	Storage temperature	/	-40		125	°C
V_{ISO}	Isolation between terminal and copper base	Tj = 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	Tj = 25°C, V_{CE} = 1200V, V_{GE} = 0V			1	mA
I_{GES}	Gate-Emitter leakage current	Tj = 25°C, V_{CE} = 0V, V_{GE} = ±20V			±2	μA
$V_{GE(th)}$	Gate-Emitter threshold voltage	Tj = 25°C, V_{CE} = 20V, I_C = 150mA	4.5		8.5	V
$V_{CE(sat)}$	Collector-Emitter saturation voltage	Tj = 25°C, V_{GE} = 15V, I_C = 150A		1.80	2.40	V
		Tj = 125°C, V_{GE} = 15V, I_C = 150A		1.95		V
		Tj = 150°C, V_{GE} = 15V, I_C = 150A		2.25		V
C_{ies}	Input capacitance	Tj = 25°C, V_{CE} = 10V, V_{GE} = 0V, f = 1MHz		12.6		nF
t_{on}	Turn-on time	Tj = 150°C, V_{CC} = 600V, I_C = 150A, V_{GE} = ±15V, R_G = 10Ω, 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	Tj = 150°C, V_{CC} = 720V, V_{GE} = ±15V, R_G = 10Ω	10			μs
V_F	Forward on voltage	Tj = 25°C, I_F = 150A		2.10	2.60	V
		Tj = 125°C, I_F = 150A		2.00		V
		Tj = 125°C, I_F = 150A		1.90		V
t_{rr}	Reverse recovery time	Tj = 125°C, I_F = 150A		150		ns
		Tj = 125°C, I_F = 150A		160		ns
$R_{th(j-c)}$	Thermal resistance (per chip)	IGBT			0.21	°C/W
		FWD			0.30	°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					

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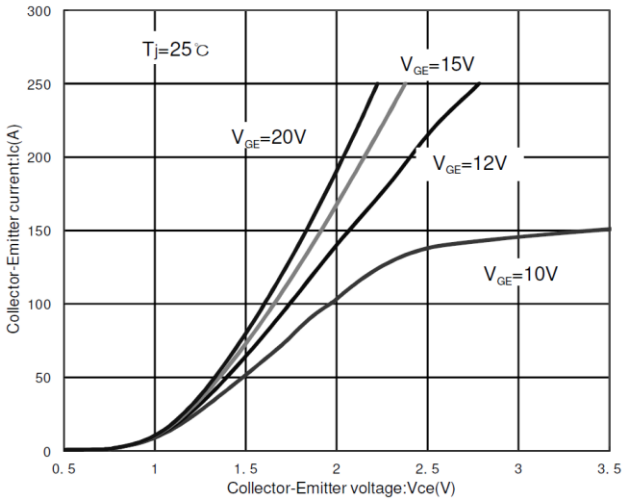
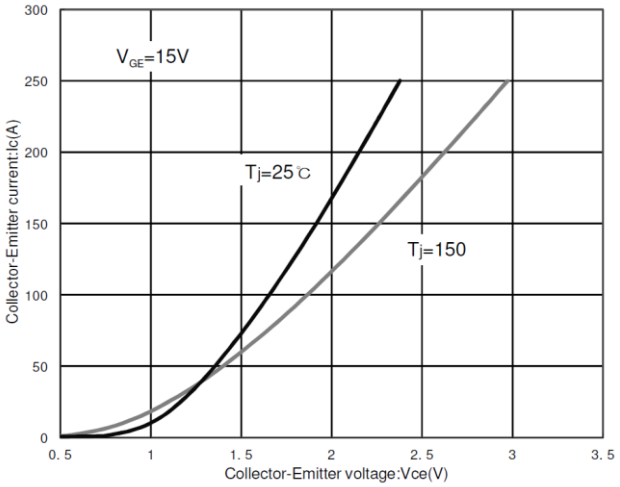
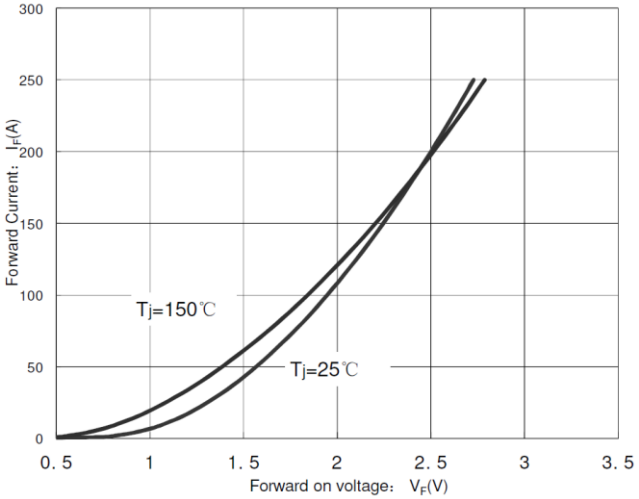
Collector current VS.Collector-Emitter voltage



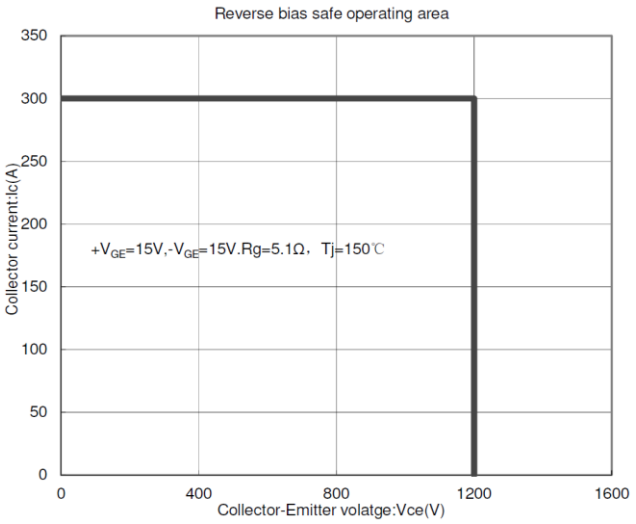
Collector current VS.Collector-Emitter voltage



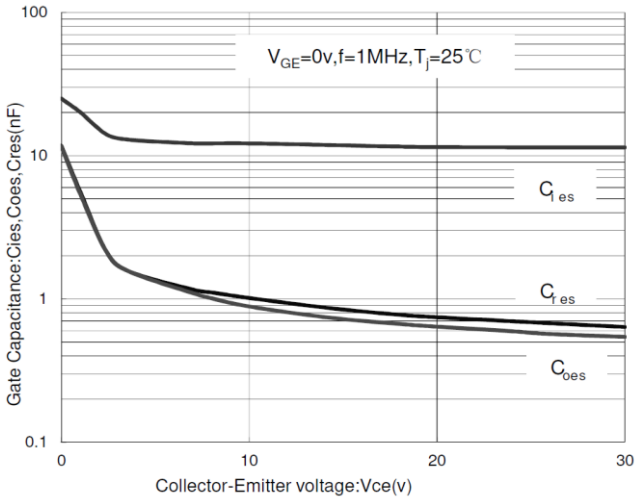
Forward Current VS. Forward Voltage



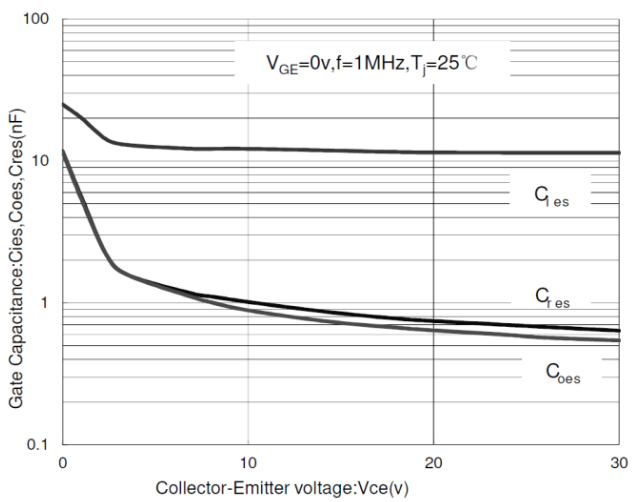
Reverse bias safe operating area



Gate Capacitance vs.Collector-Emitter Voltage



Gate Capacitance vs.Collector-Emitter Voltage



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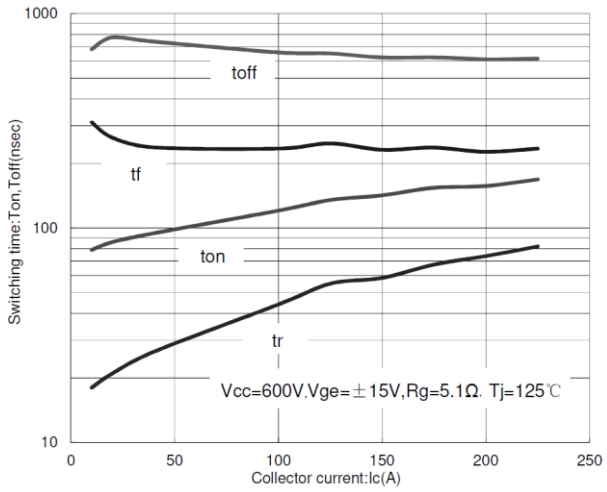
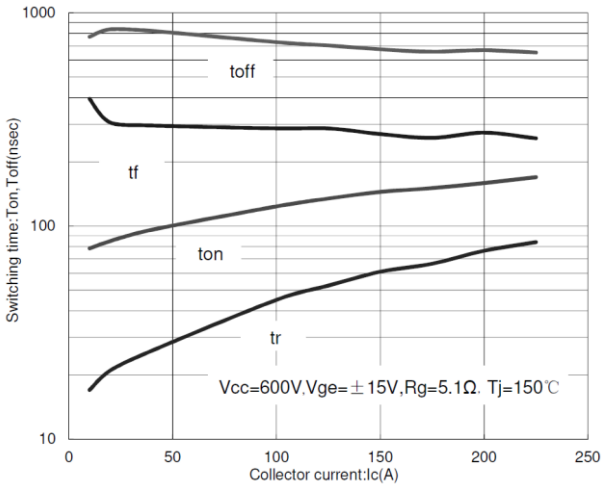
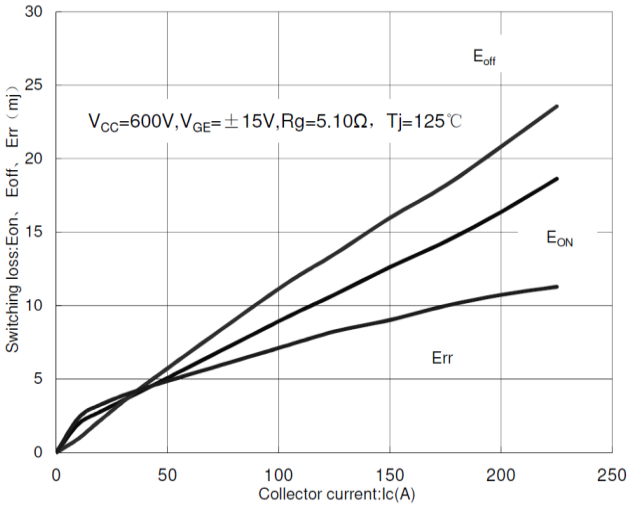
Switching time vs.Collector current



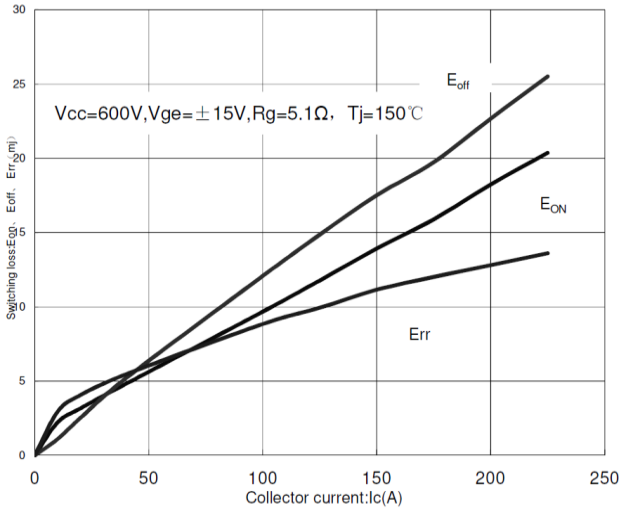
Switching time vs.Collector current



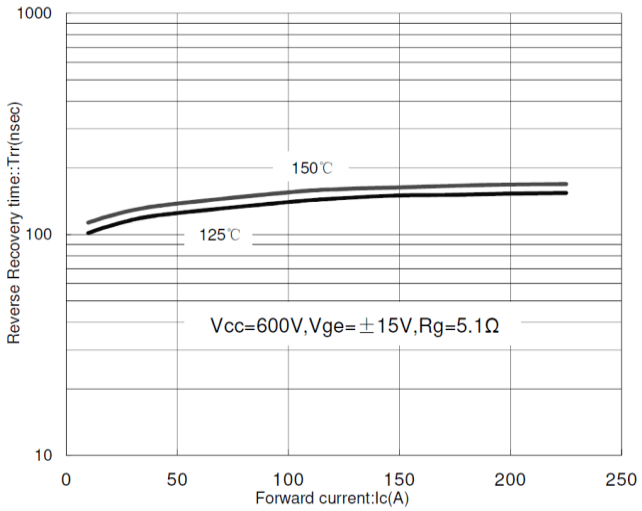
Switching loss vs.Collector current



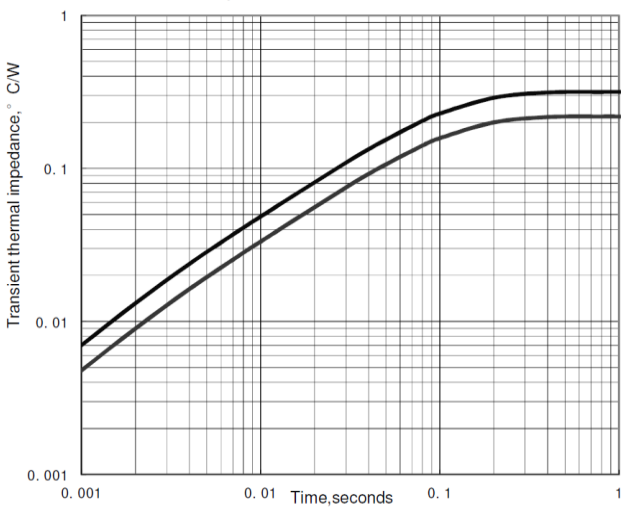
Switching loss vs.Collector current



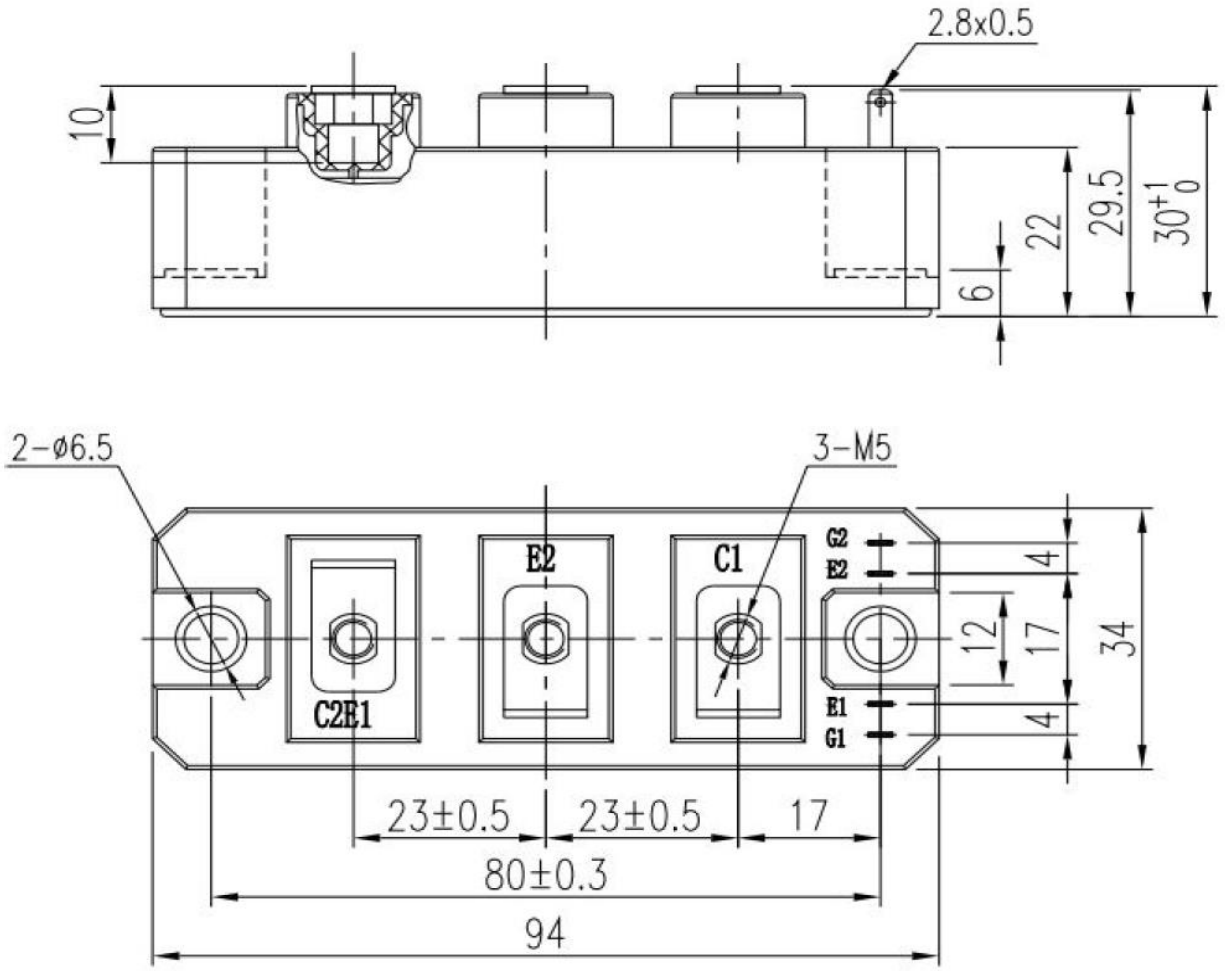
Reverse Recovery time vs.Collector current



Max. junction to case thermai impedance



Outline:



(dimensions in mm)

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