

MRI400.12

2 in 1 IGBT Modules

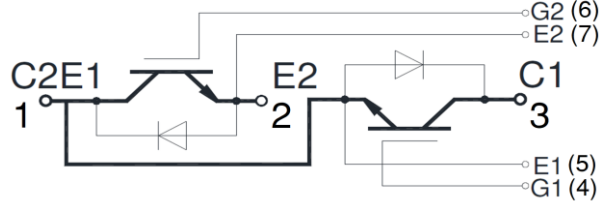


Features:

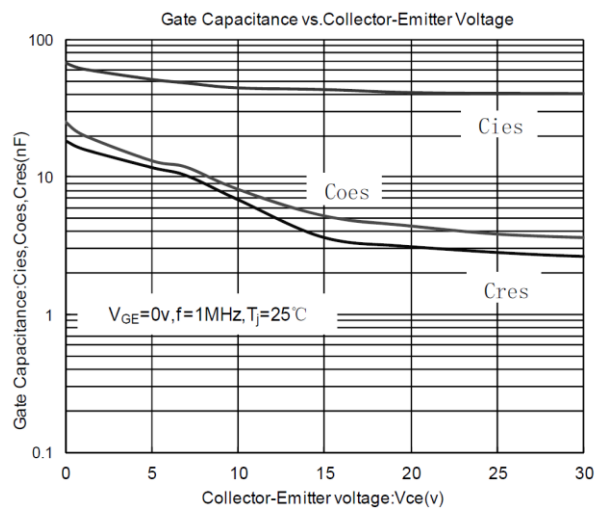
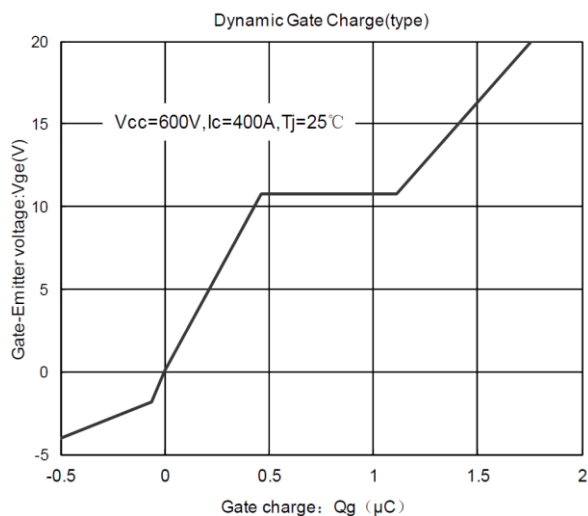
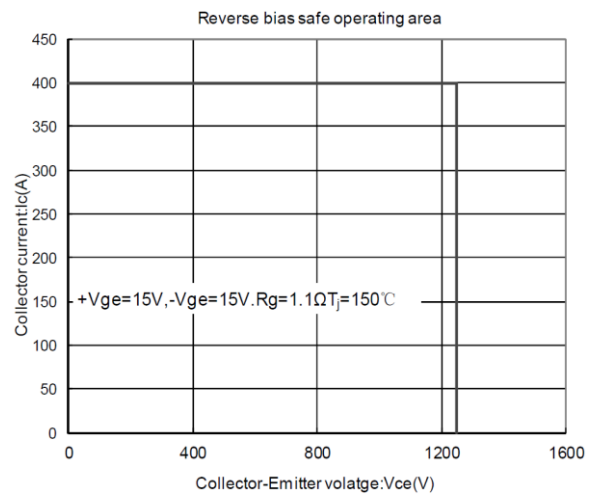
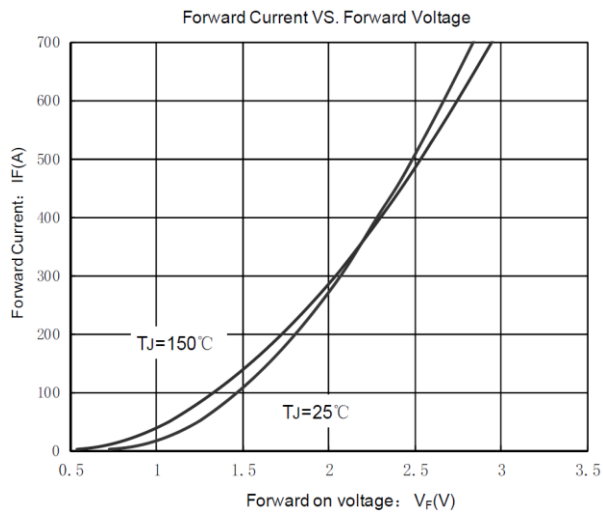
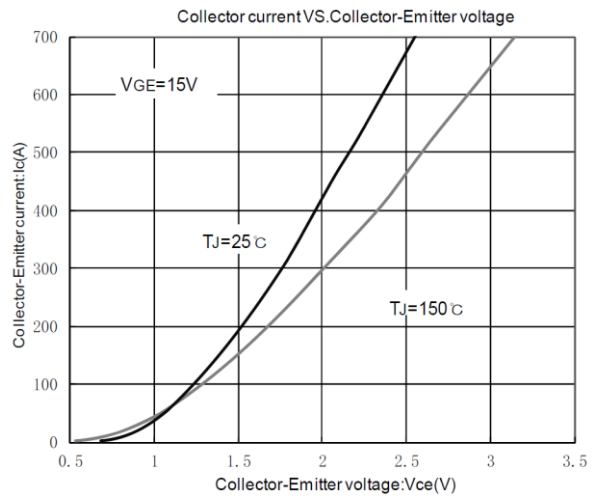
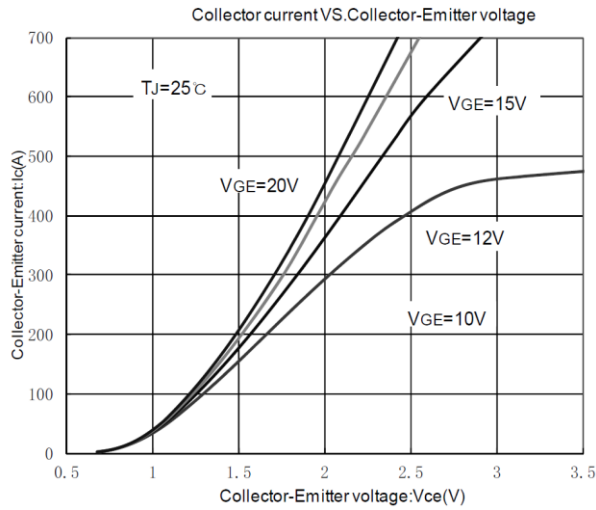
- High speed switching
- Voltage drive
- Low inductance module structure
- Simple mounting

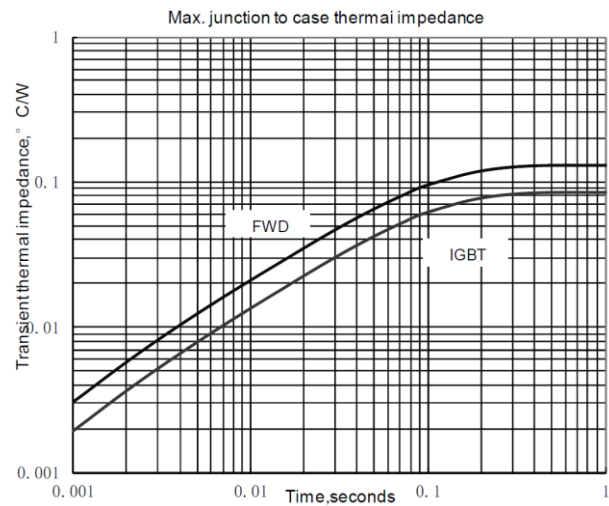
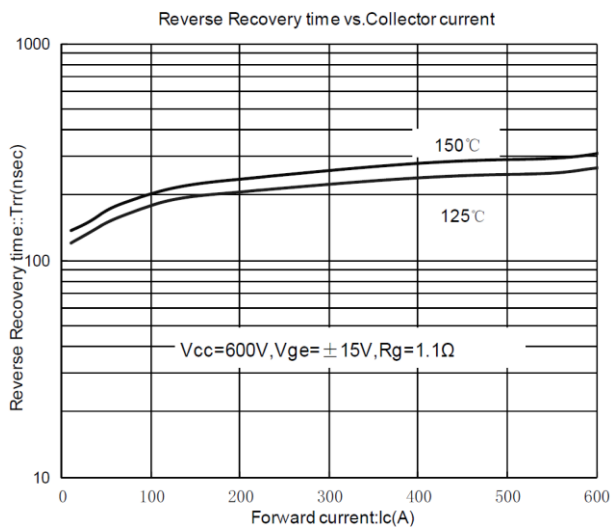
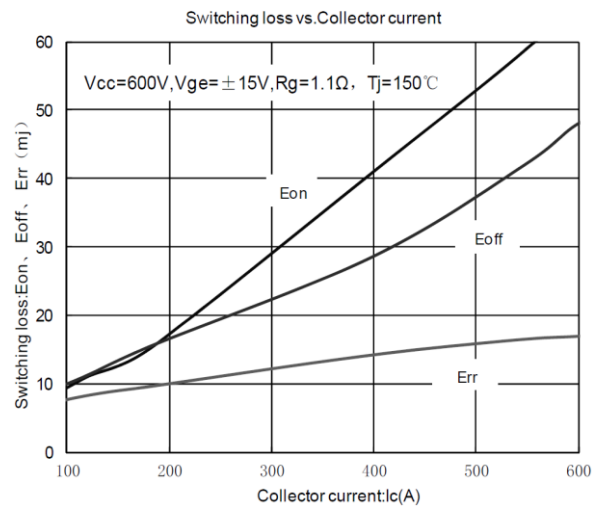
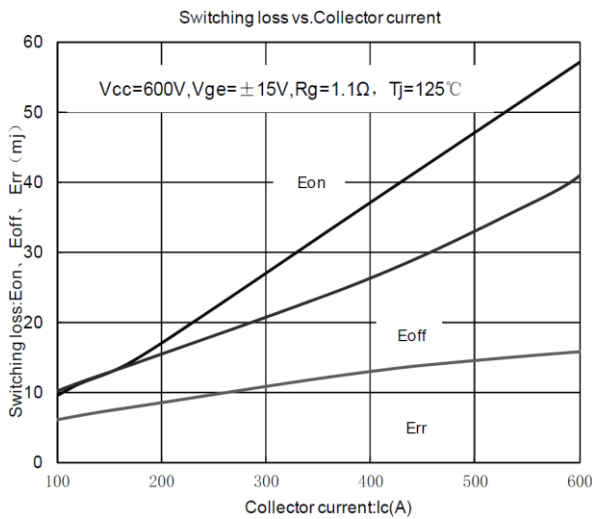
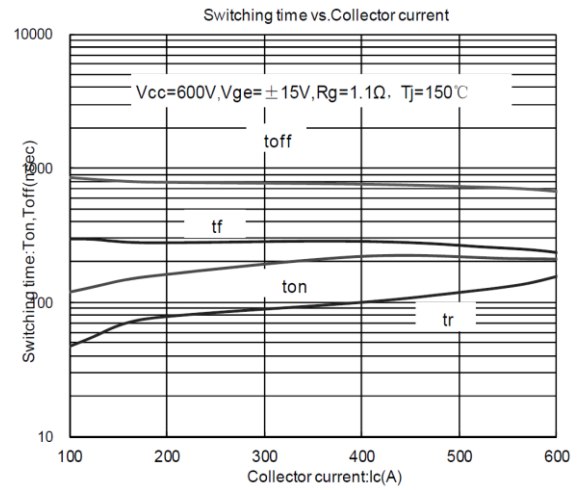
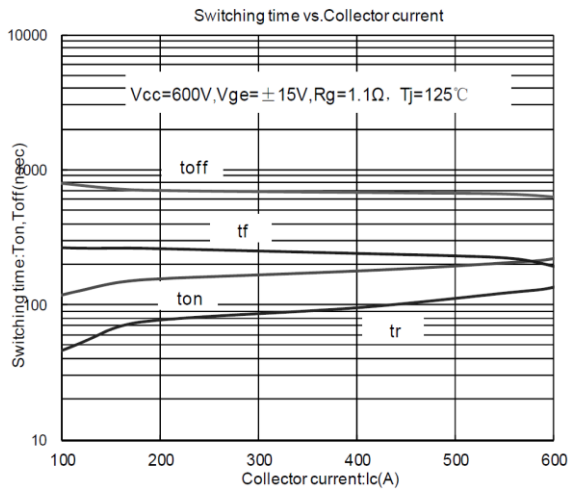
Typical applications:

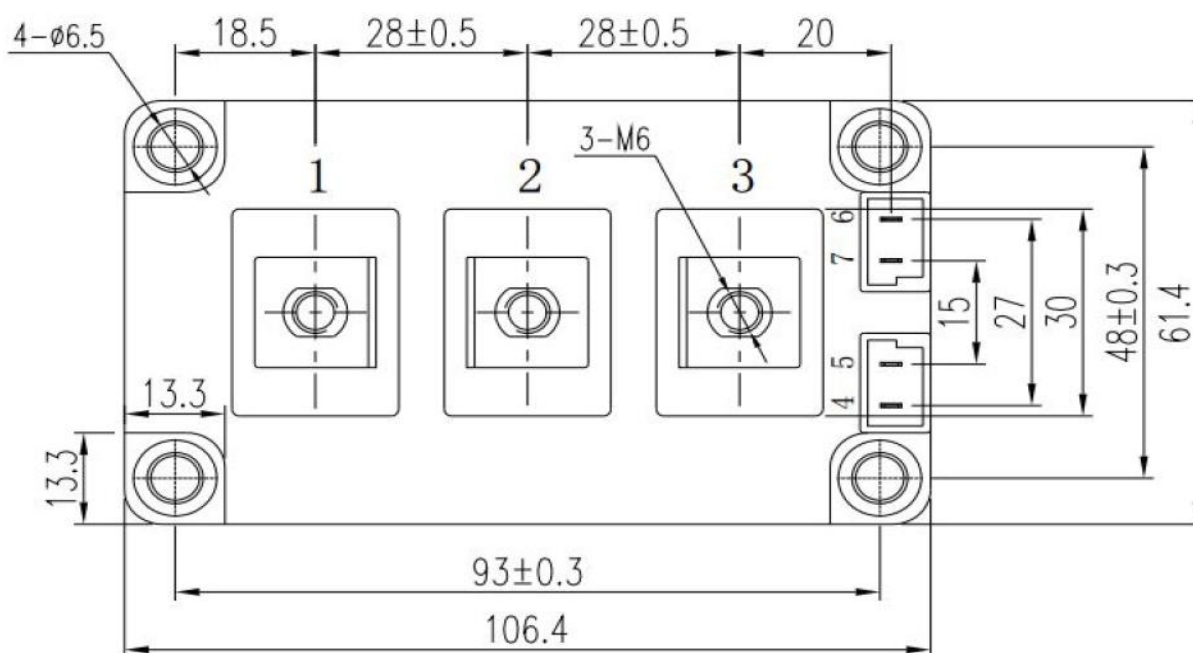
- Inverter for Motor Drive
- Inverter for Welding machine
- Uninterruptible Power Supply
- Industrial machines



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			400	A
I _{CP}		T _J = 25°C, T _p = 1 ms			800	A
P _C	Collector power dissipation	T _J = 25°C, 1 device			1471	W
T _j	Junction temperature	/	-40		+150	°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)	/	3.0		6.0	N·m
	Terminals (M6)	/	2.5		5.0	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			±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	2.50	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
E _{on}	Turn-on energy			41.5		mJ
E _{off}	Turn-off energy			28.0		mJ
E _{rr}	Reverse recovery energy			14.5		mJ
t _{SC}	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	°C/W
		FWD			0.13	°C/W
R _{th(c-f)}	Contact thermal resistance (1 device)	With thermal compound		0.050		°C/W
W _t	Weight				322	g
Outline	454H3					







4