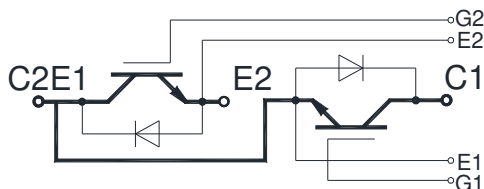


## MRI 200.12

### 2 in 1 IGBT Modules



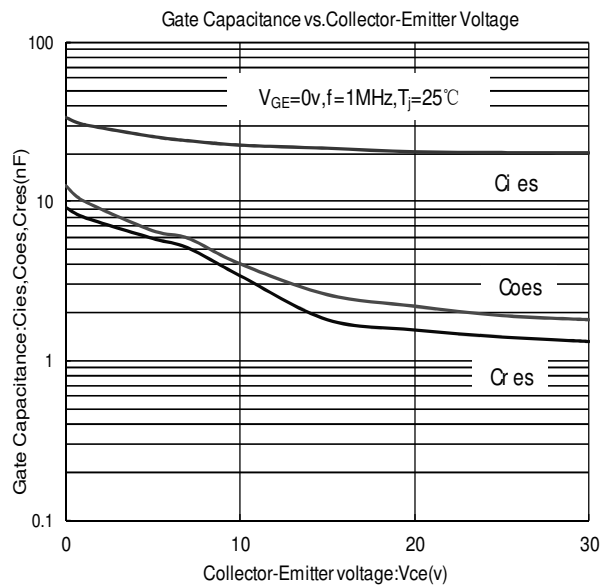
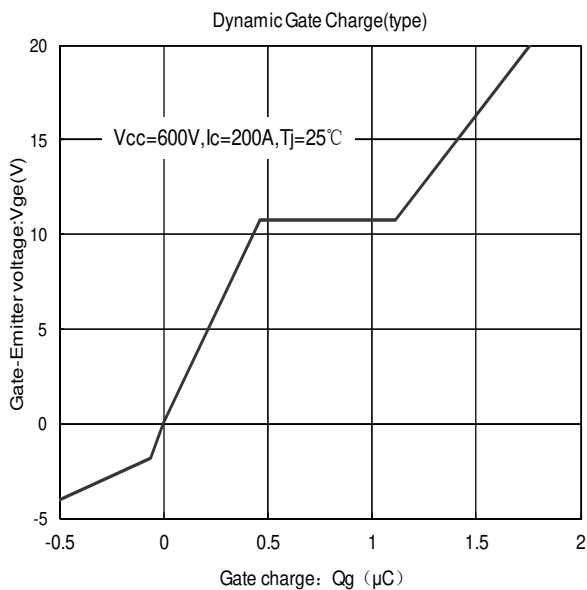
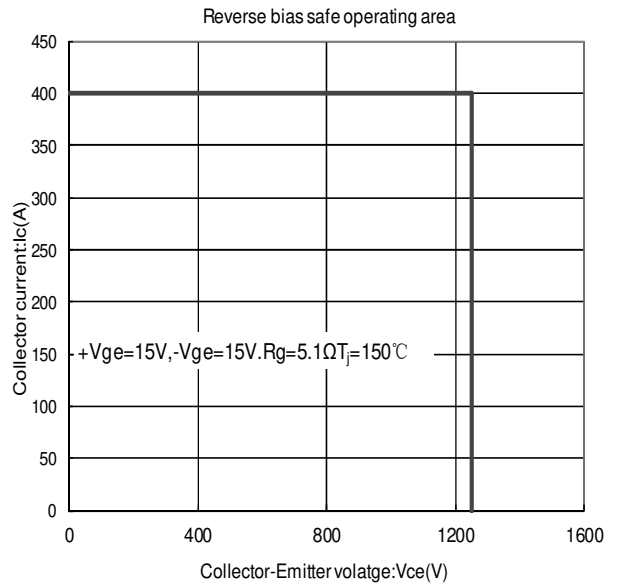
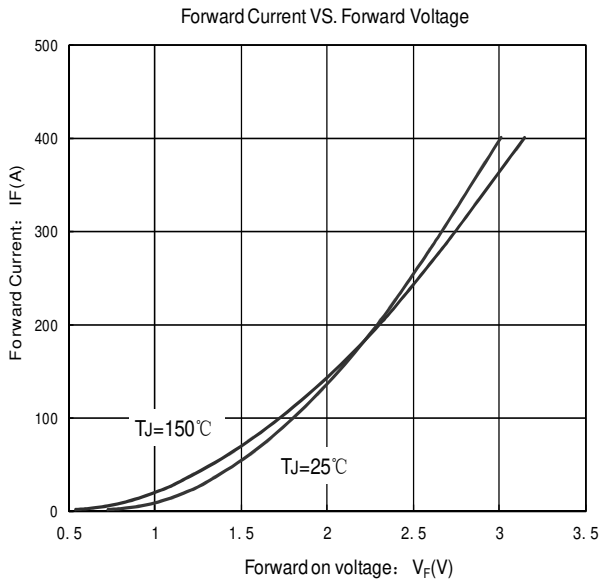
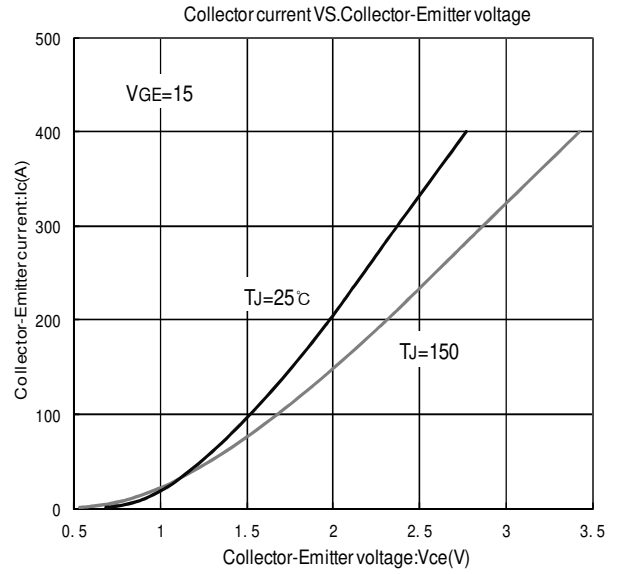
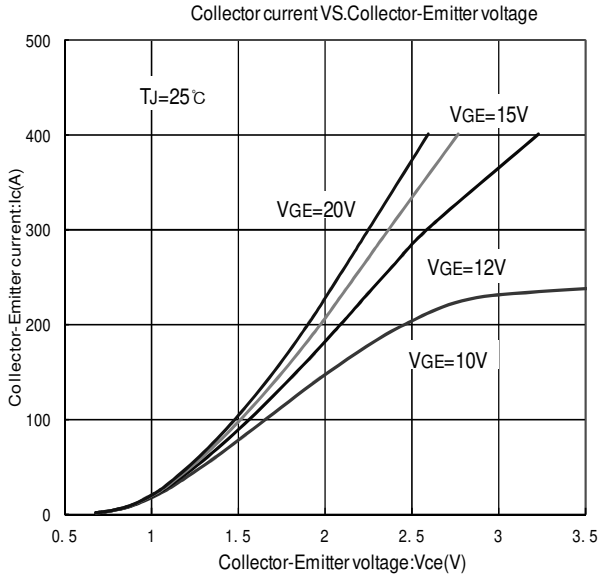
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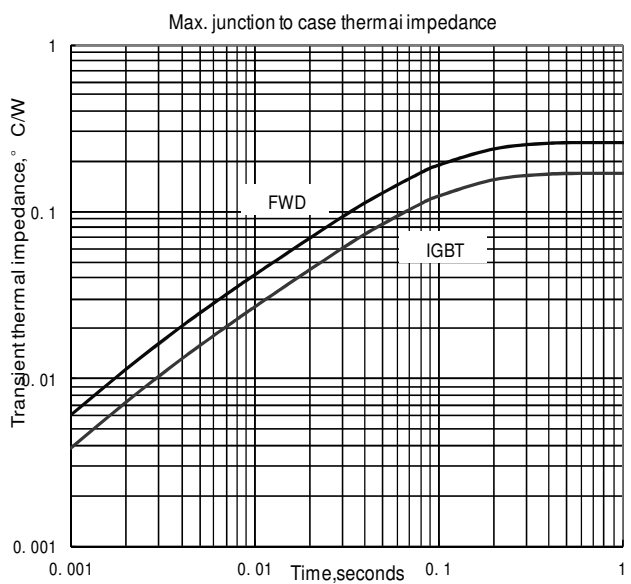
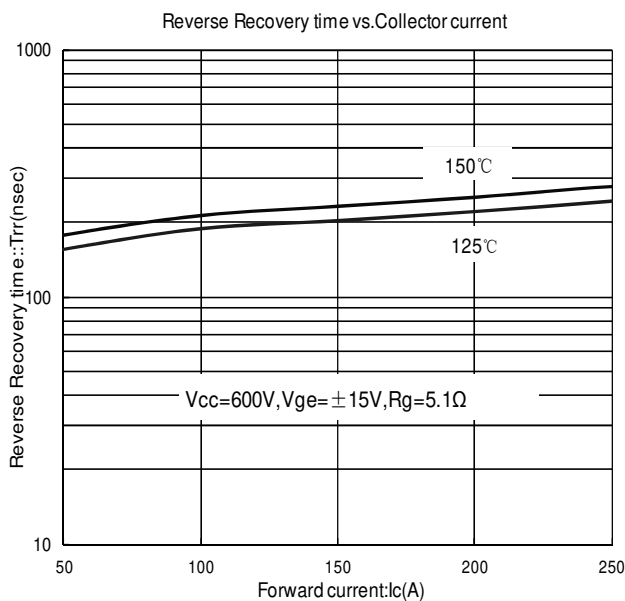
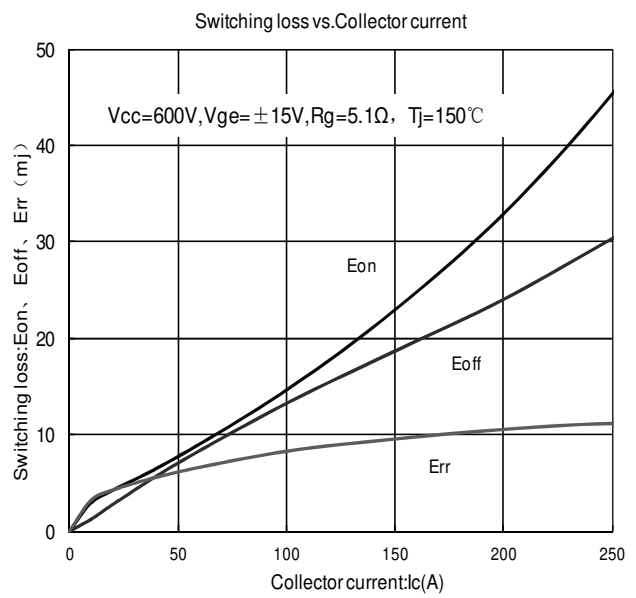
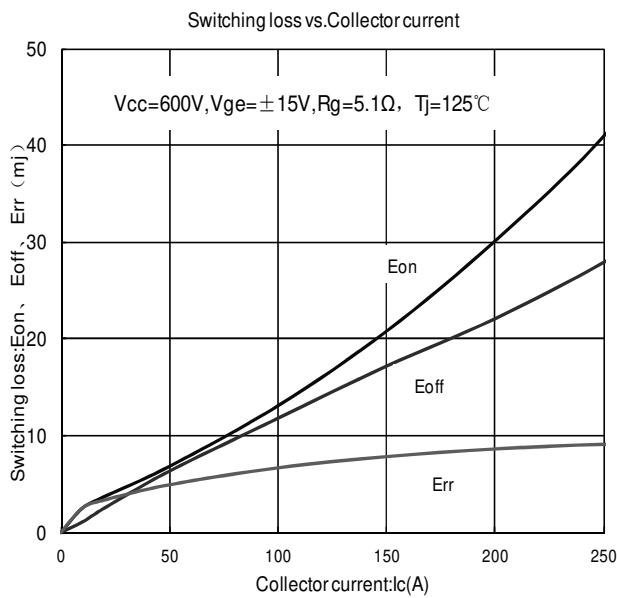
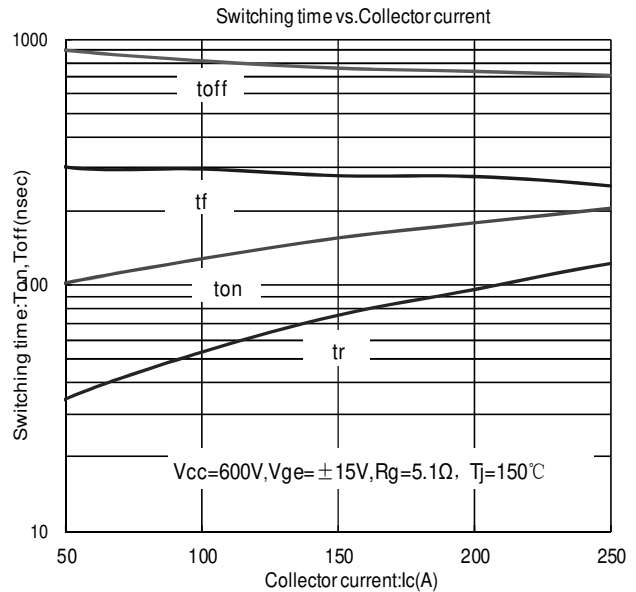
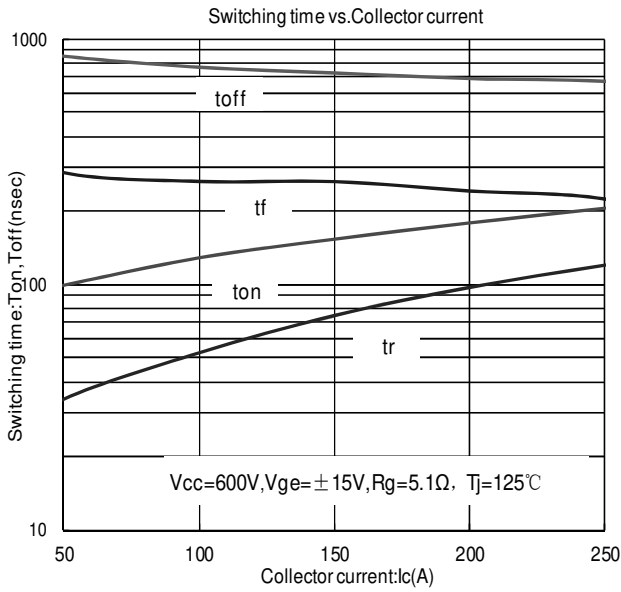
- n High speed switching
- n Voltage drive
- n Low inductance module structure

#### Typical Applications:

- n Inverter for Motor Drive
- n Inverter welding machines
- n Uninterruptible Power Supply
- n Industrial machines

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VALUE			UNIT
			Min	Type	Max	
$V_{CES}$	Collector-Emitter voltage	$T_j=25^{\circ}\text{C}$			1250	V
$V_{GES}$	Gate-Emitter voltage	$T_j=25^{\circ}\text{C}$			$\pm 30$	V
$I_C$	Collector current	Continuous@ $T_C=100^{\circ}\text{C}$			200	A
$I_{CP}$		$T_P=1\text{ms}$			400	A
$P_C$	Collector power dissipation	$T_j=150^{\circ}\text{C}$ , 1 device			727	W
$T_j$	Junction temperature	/			175	$^{\circ}\text{C}$
$T_{stg}$	Storage temperature	/	-40		125	$^{\circ}\text{C}$
$V_{iso}$	Isolation between terminal and copper base	$T_j=25^{\circ}\text{C}$ , AC: 1minute	2500			V
Screw torque	Mounting(M6)	/	4.5		6.0	N·m
	Terminals(M6)	/	4.5		6.0	N·m
$I_{CES}$	Zero gate voltage collector current	$T_j=25^{\circ}\text{C}$ , $V_{CE}=1200\text{V}$ , $V_{GE}=0\text{V}$			1.0	mA
$I_{GES}$	Gate-Emitter leakage current	$T_j=25^{\circ}\text{C}$ , $V_{CE}=0\text{V}$ , $V_{GE}=\pm 20\text{V}$			$\pm 2$	$\mu\text{A}$
$V_{GE(th)}$	Gate-Emitter threshold voltage	$T_j=25^{\circ}\text{C}$ , $V_{CE}=20\text{V}$ , $I_C=150\text{mA}$	4.5		8.5	V
$V_{CE(sat)}$	Collector-Emitter saturation voltage	$T_j=25^{\circ}\text{C}$ , $V_{GE}=15\text{V}$ , $I_C=200\text{A}$		1.96	2.5	V
		$T_j=125^{\circ}\text{C}$ , $V_{GE}=15\text{V}$ , $I_C=200\text{A}$		2.25		V
		$T_j=150^{\circ}\text{C}$ , $V_{GE}=15\text{V}$ , $I_C=200\text{A}$		2.33		V
$C_{ies}$	Input capacitance	$T_j=25^{\circ}\text{C}$ , $V_{CE}=10\text{V}$ , $V_{GE}=0\text{V}$ , $f=1\text{MHz}$		22.2		nF
$t_{on}$	Turn-on time	$T_j=150^{\circ}\text{C}$ , $V_{CC}=600\text{V}$ , $I_C=200\text{A}$ , $V_{GE}=\pm 15\text{V}$ , $R_g=5.1\Omega$ , Inductive load		180		ns
$t_r$				95		ns
$t_{off}$	Turn-off time	$T_j=150^{\circ}\text{C}$ , $V_{CC}=600\text{V}$ , $I_C=200\text{A}$ , $V_{GE}=\pm 15\text{V}$ , $R_g=5.1\Omega$ , Inductive load		730		ns
$t_f$				270		ns
tsc	Short circuit withstand time	$T_j=150^{\circ}\text{C}$ , $V_{CC}=720\text{V}$ , $V_{GE}=\pm 15\text{V}$ , $R_g=5.1\Omega$	10			$\mu\text{s}$
$V_F$	Forward on voltage	$T_j=25^{\circ}\text{C}$ , $I_F=200\text{A}$		2.28	2.6	V
		$T_j=125^{\circ}\text{C}$ , $I_F=200\text{A}$		2.26		V
		$T_j=150^{\circ}\text{C}$ , $I_F=200\text{A}$		2.30		V
$t_{rr}$	Reverse recovery time	$T_j=125^{\circ}\text{C}$ , $I_F=200\text{A}$		220		ns
		$T_j=150^{\circ}\text{C}$ , $I_F=200\text{A}$		250		ns
$R_{th(j-c)}$	Thermal resistance(per chip)	IGBT			0.17	$^{\circ}\text{C/W}$
		FWD			0.26	$^{\circ}\text{C/W}$
$R_{th(c-f)}$	Contact thermal resistance (per module)	With thermal compound		0.01		$^{\circ}\text{C/W}$
$W_t$	Weight				310	g
Outline		454H3				





**Outline:**

