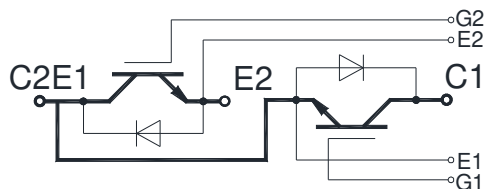




MRI 100.12

2 in 1 IGBT Modules



Features:

- 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	$T_j=25^{\circ}\text{C}$			± 30	V
I_C	Collector current	Continuous@ $T_C=100^{\circ}\text{C}$			100	A
I_{CP}		$t_p=1\text{ms}$			200	A
P_C	Collector power dissipation	$T_j=150^{\circ}\text{C}$, 1 device			500	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(M5)	/	2.5		4.5	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	mA
I_{GES}	Gate-Emitter leakage current	$T_j=25^{\circ}\text{C}$, $V_{CE}=0\text{V}$, $V_{GE}=\pm 20\text{V}$			± 2	μA
$V_{GE(th)}$	Gate-Emitter threshold voltage	$T_j=25^{\circ}\text{C}$, $V_{CE}=20\text{V}$, $I_C=100\text{mA}$	5		8.5	V
$V_{CE(sat)}$	Collector-Emitter saturation voltage	$T_j=25^{\circ}\text{C}$, $V_{GE}=15\text{V}$, $I_C=100\text{A}$	1.75	2.40		V
		$T_j=125^{\circ}\text{C}$, $V_{GE}=15\text{V}$, $I_C=100\text{A}$	1.95			V
		$T_j=150^{\circ}\text{C}$, $V_{GE}=15\text{V}$, $I_C=100\text{A}$	2.05			V
C_{ies}	Input capacitance	$T_j=25^{\circ}\text{C}$, $V_{CE}=10\text{V}$, $V_{GE}=0\text{V}$, $f=1\text{MHz}$			9.1	nF
t_{on}	Turn-on time	$T_j=150^{\circ}\text{C}$, $V_{CC}=600\text{V}$, $I_C=100\text{A}$, $V_{GE}=\pm 15\text{V}$, $R_G=10\Omega$, Inductive load			160	ns
t_r					40	ns
t_{off}					600	ns
t_f					200	ns
tsc	Short Circuit Withstand Time	$T_j=150^{\circ}\text{C}$, $V_{CC}=720\text{V}$, $V_{GE}=\pm 15\text{V}$, $R_G=10\Omega$	10			μs
V_F	Forward on voltage	$T_j=25^{\circ}\text{C}$, $I_F=100\text{A}$	1.80	2.6		V
		$T_j=125^{\circ}\text{C}$, $I_F=100\text{A}$	1.88			V
		$T_j=150^{\circ}\text{C}$, $I_F=100\text{A}$	1.95			V
t_{rr}	Reverse recovery time	$T_j=125^{\circ}\text{C}$, $I_F=100\text{A}$			135	ns
		$T_j=150^{\circ}\text{C}$, $I_F=100\text{A}$			150	ns
$R_{th(j-c)}$	Thermal resistance(per chip)	IGBT			0.30	$^{\circ}\text{C}/\text{W}$
		FWD			0.50	$^{\circ}\text{C}/\text{W}$
$R_{th(c-f)}$	Contact thermal resistance (per module)	With thermal compound			0.05	$^{\circ}\text{C}/\text{W}$
W_t	Weight				155	g
Outline		251H3				

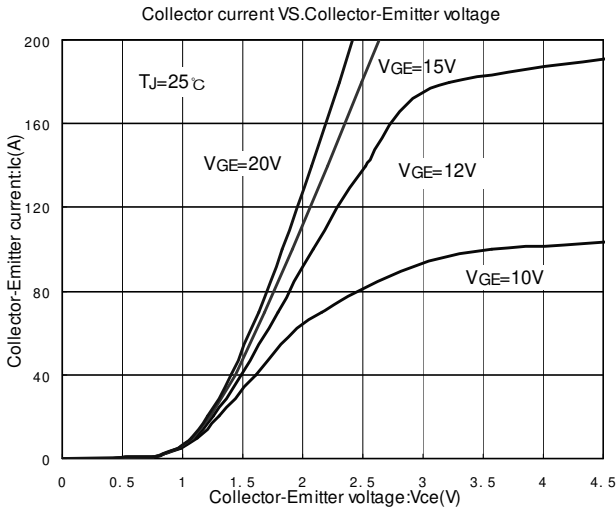


Fig.1

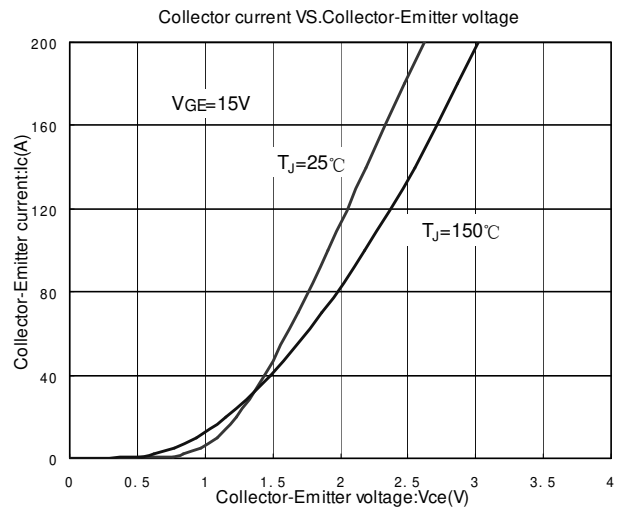


Fig.2

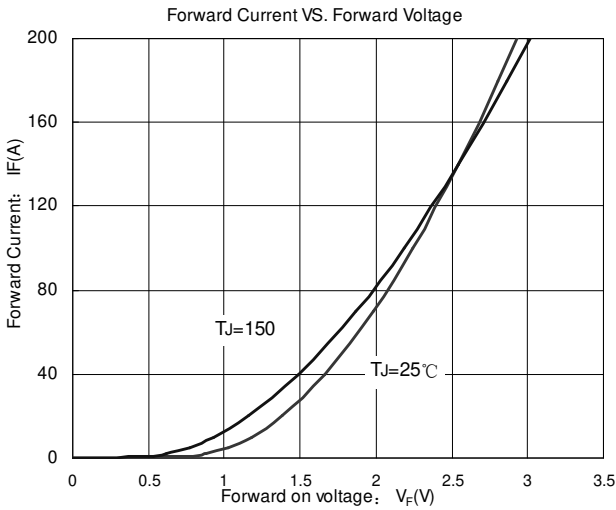


Fig.3

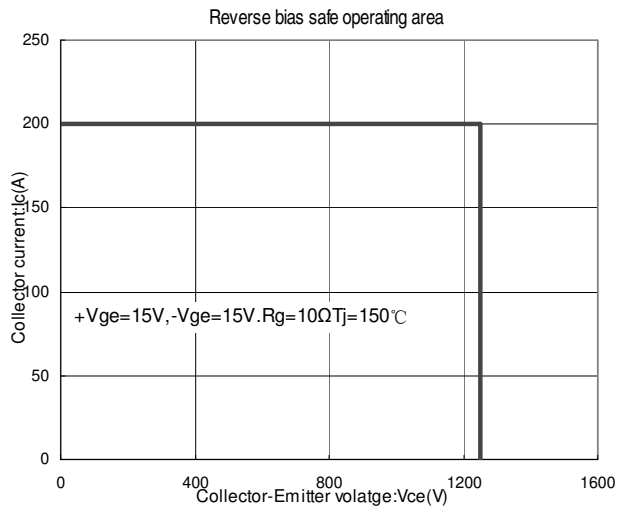


Fig.4

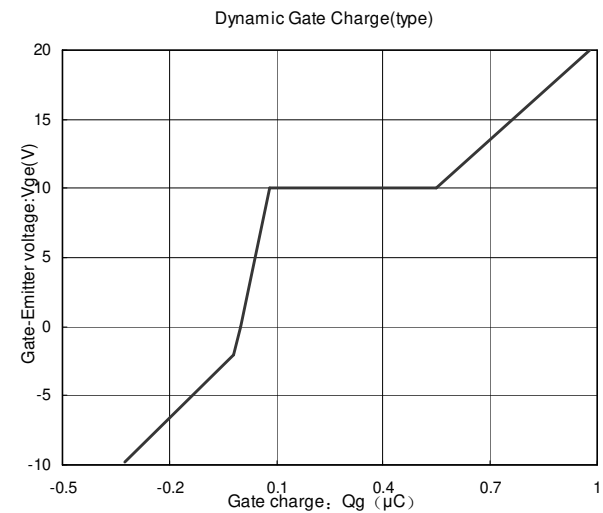


Fig.5

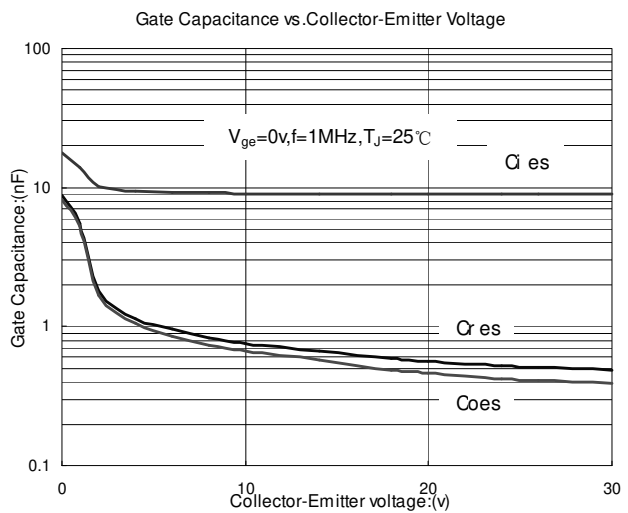


Fig.6

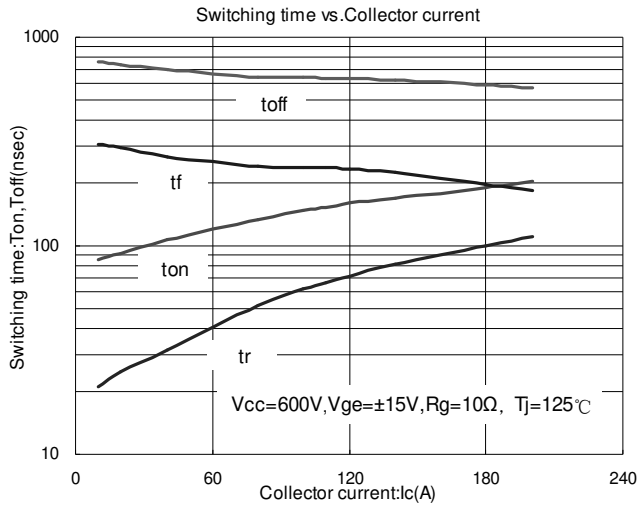


Fig.7

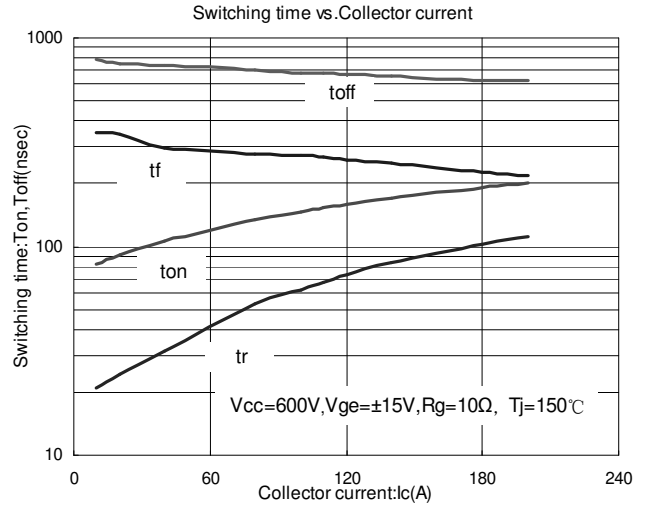


Fig.8

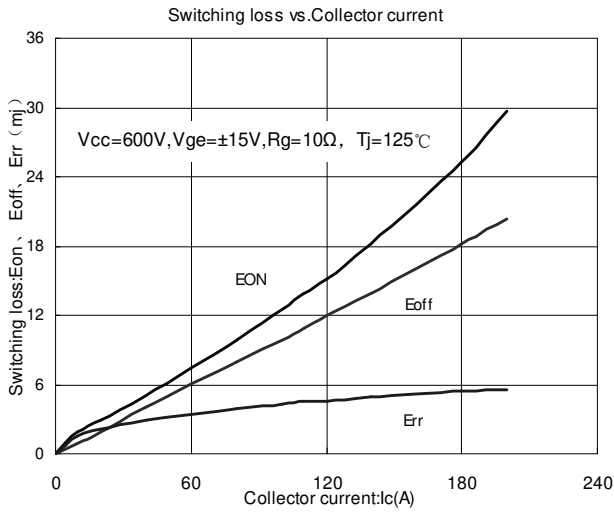


Fig.9

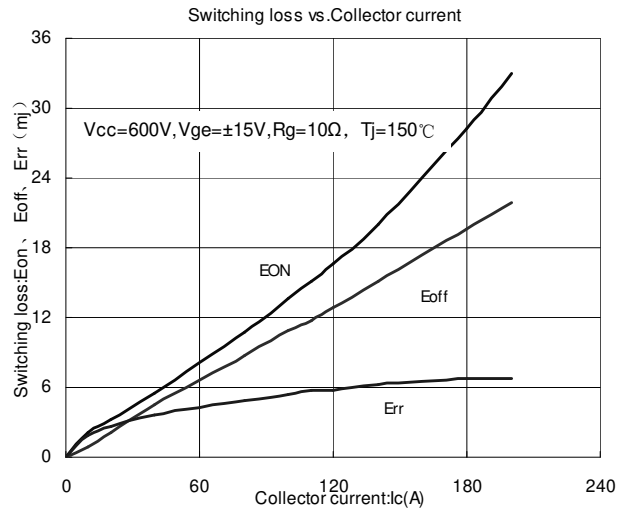


Fig.10

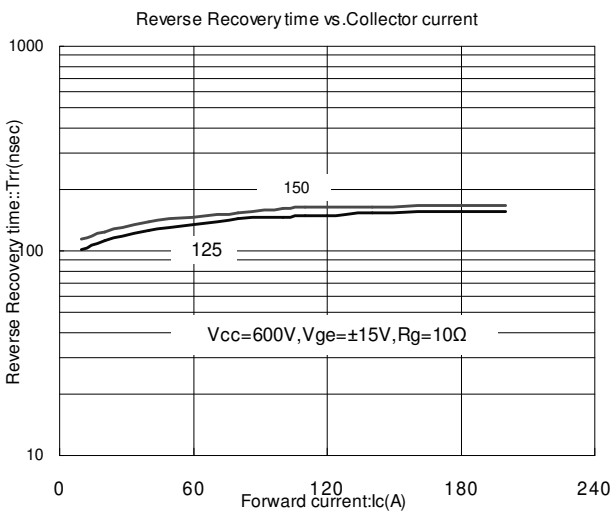


Fig.11

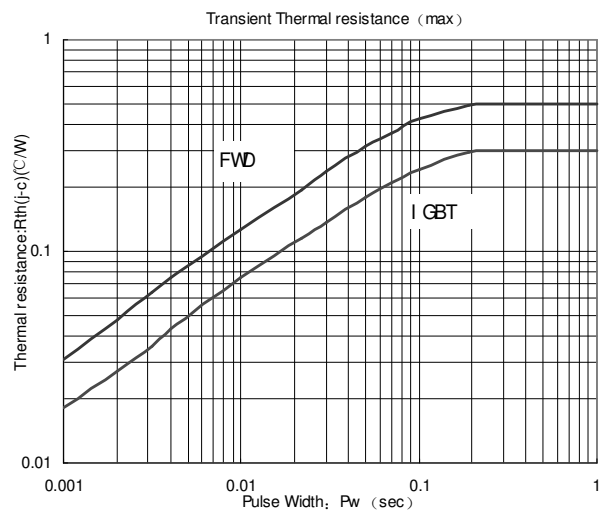


Fig.12

Outline:

