

Features:

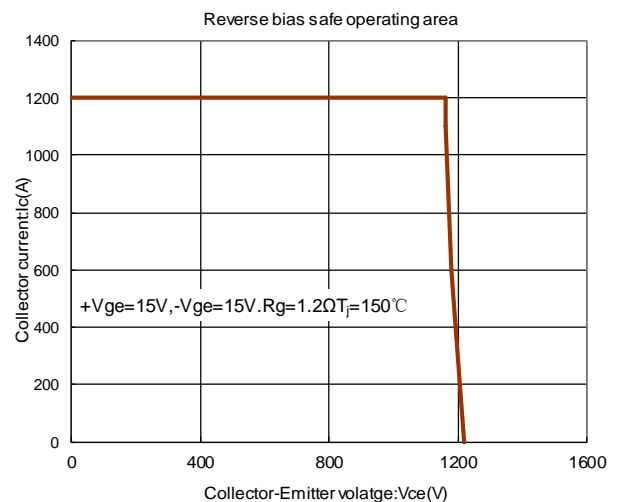
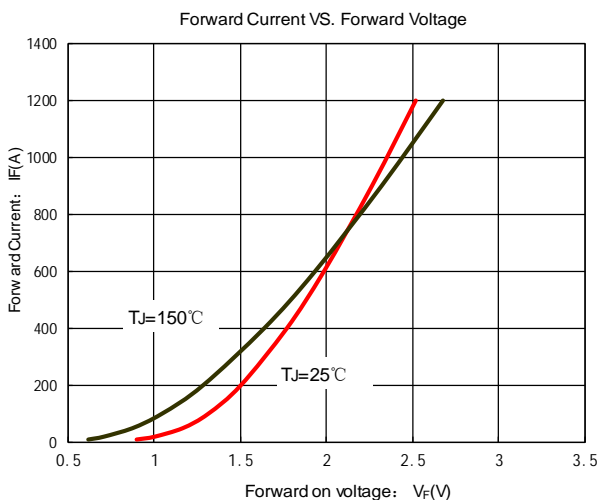
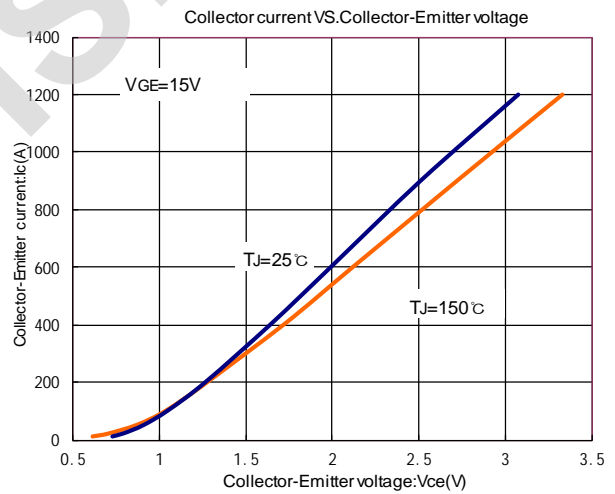
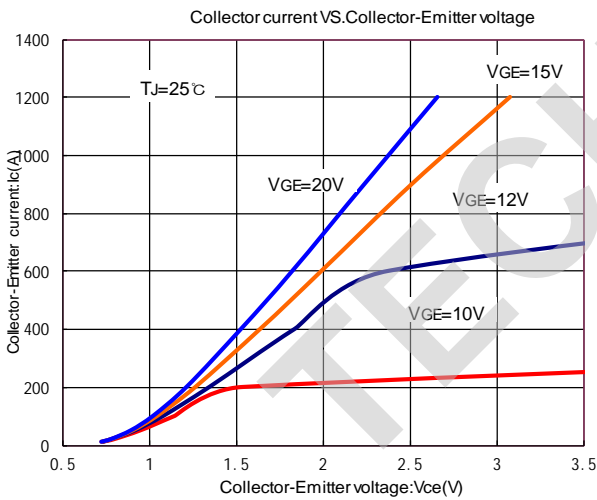
- n Low V_{CEsat}
- n Standard Housing

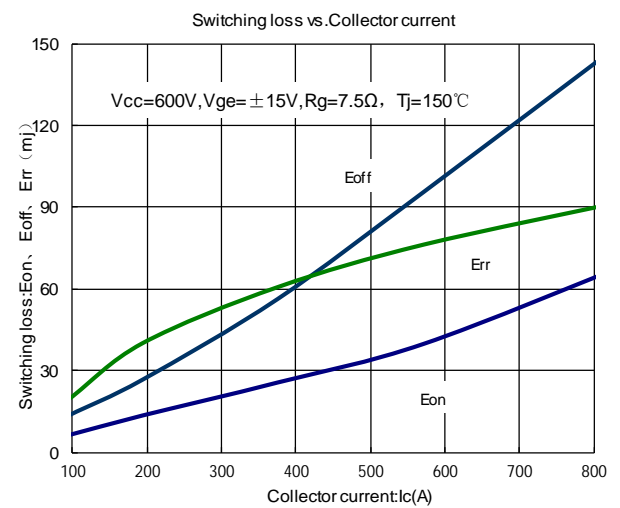
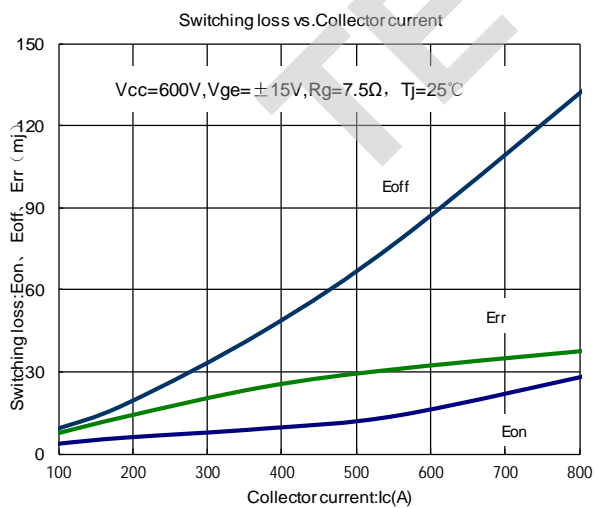
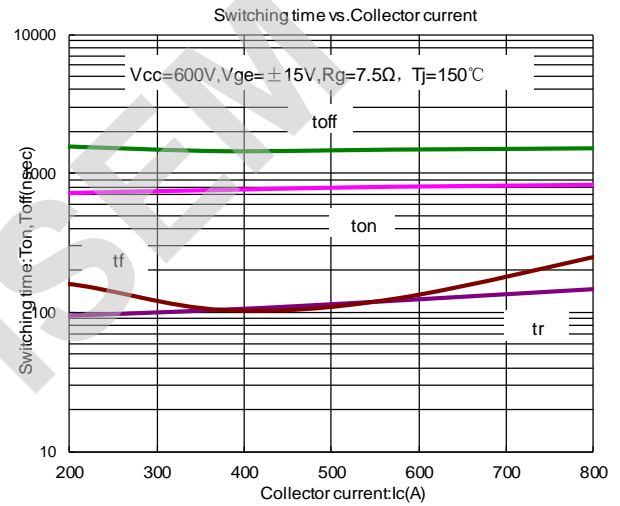
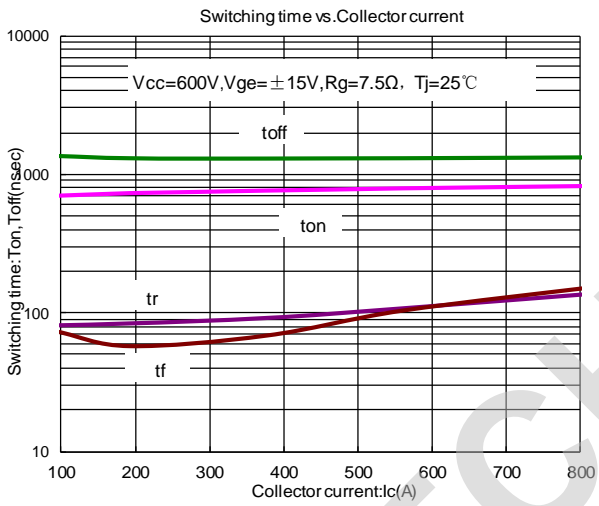
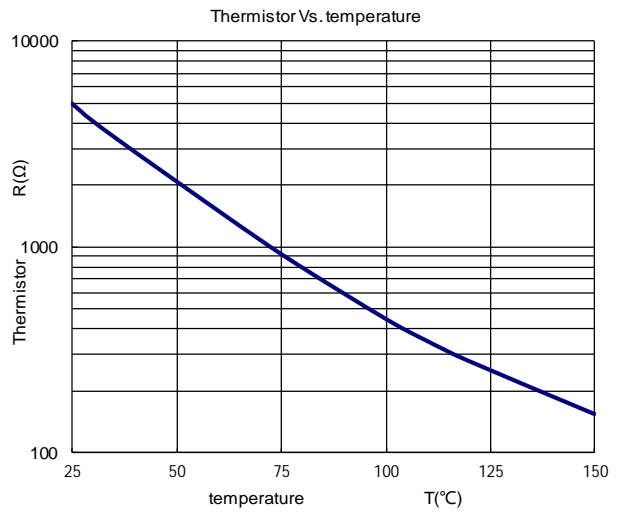
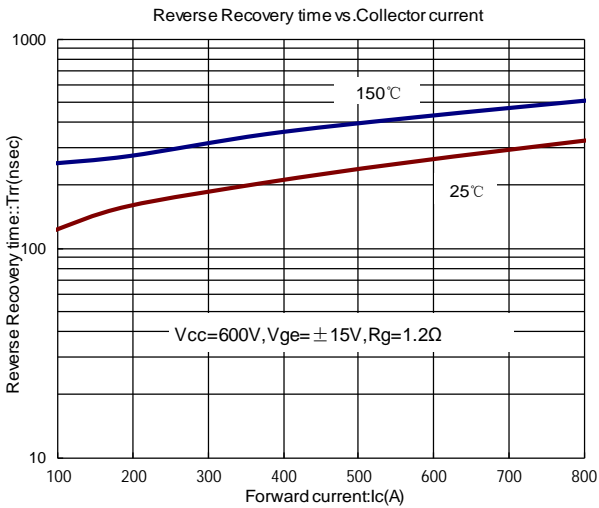
Typical Applications:

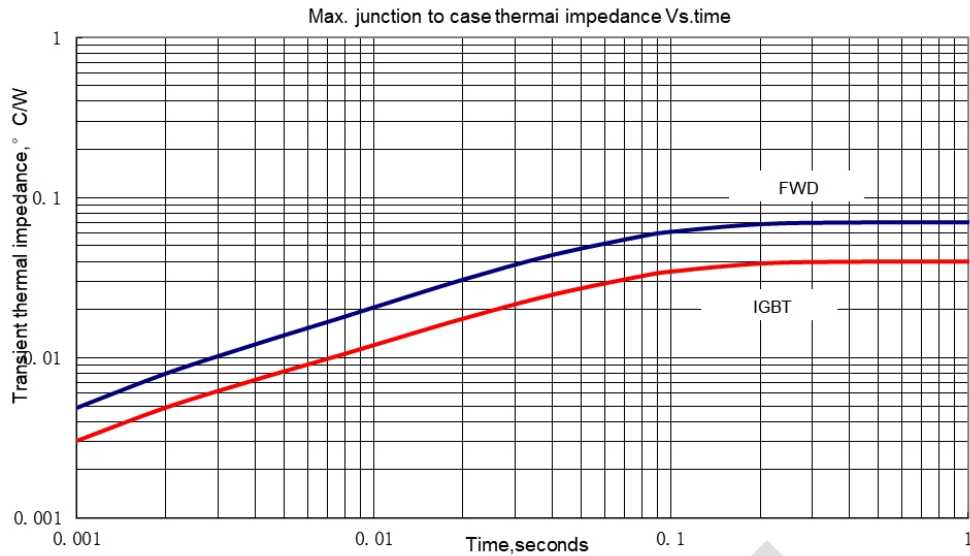
- n Motor Drive
- n Servo Drive
- n Uninterruptible Power Supply System
- n Wind Turbines
- n High Power Converters

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VALUE			UNIT
			Min	Type	Max	
V_{CES}	Collector-Emitter voltage	$T_j=25^{\circ}C$			1200	V
V_{GES}	Gate-Emitter voltage	$T_j=25^{\circ}C$			± 30	V
I_C	Collector current	Continuous @ $T_C=100^{\circ}C$			600	A
I_{CP}		$T_P=1ms$			1200	A
P_C	Collector power dissipation	$T_j=150^{\circ}C$, 1 device			4050	W
T_j	Junction temperature	/			175	$^{\circ}C$
T_{stg}	Storage temperature	/	-40		125	$^{\circ}C$
V_{iso}	Isolation between terminal and copper base	$T_j=25^{\circ}C$, AC: 1minute	3000			V
I_{CES}	Zero gate voltage collector current	$T_j=25^{\circ}C$, $V_{CE}=1200V$, $V_{GE}=0V$			1.5	mA
I_{GES}	Gate-Emitter leakage current	$T_j=25^{\circ}C$, $V_{CE}=0V$, $V_{GE}=\pm 20V$			± 0.5	μA
$V_{GE(th)}$	Gate-Emitter threshold voltage	$T_j=25^{\circ}C$, $V_{CE}=20V$, $I_C=150mA$	4.5		8.5	V
$V_{CE(sat)}$	Collector-Emitter saturation voltage	$T_j=25^{\circ}C$, $V_{GE}=15V$, $I_C=600A$		2.00	2.40	V
		$T_j=125^{\circ}C$, $V_{GE}=15V$, $I_C=600A$		2.10		V
		$T_j=150^{\circ}C$, $V_{GE}=15V$, $I_C=600A$		2.20		V
Q_G	Gate charge	$V_{GE}=\pm 15V$		4.40		μC
R_{Gint}	Internal gate resistor	$T_j=25^{\circ}C$		1.2		Ω
C_{ies}	Input capacitance	$T_j=25^{\circ}C$, $V_{CE}=10V$, $V_{GE}=0V$, $f=1MHz$		66.6		nF
C_{res}	Reverse transfer capacitance			10.4		nF
t_{on}	Turn-on time	$T_j=150^{\circ}C$, $V_{CC}=600V$, $I_C=600A$, $V_{GE}=\pm 15V$, $R_g=7.5\Omega$, Inductive load		800		ns
t_r				120		ns
t_{off}	Turn-off time	$R_g=7.5\Omega$, Inductive load		1400		ns
t_f				130		ns
E_{on}	Turn-on energy loss per pulse	$I_C=600A$, $V_{CE}=600V$, $L_S=20nH$ $V_{GE}=\pm 15V$, $di/dt=5100A/\mu s$ ($T_{vj}=150^{\circ}C$) $R_{Gon}=7.5\Omega$		44.0		mJ
E_{off}	Turn-off energy loss per pulse			105.0		mJ
I_{sc}	SC data	$V_{GE}\leq 15V$, $V_{CC}=720V$, $V_{CEmax}=V_{CES}-L_SCE \cdot di/dt$, $t_P\leq 10\mu s$, $T_{vj}=150^{\circ}C$		2400		A
t_{sc}	Short circuit withstand time	$T_j=150^{\circ}C$, $V_{CC}=720V$, $V_{GE}=\pm 15V$, $R_g=7.5\Omega$	10			μs
V_F	Forward on voltage	$T_j=25^{\circ}C$, $I_F=600A$		2.00	2.48	V
		$T_j=125^{\circ}C$, $I_F=600A$		1.95		V
		$T_j=150^{\circ}C$, $I_F=600A$		1.90		V

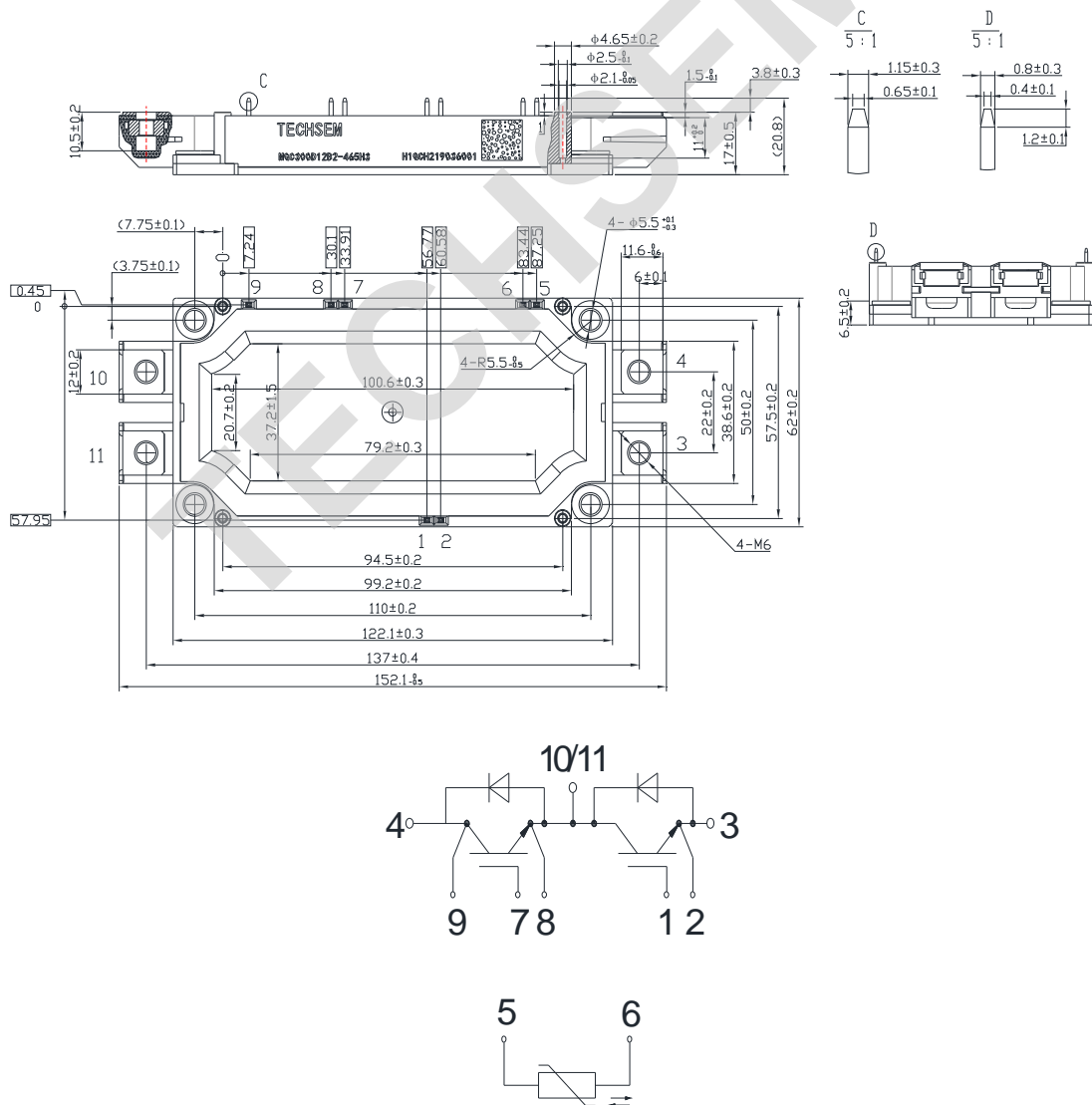
I _{RM}	Peak reverse recovery current	I _F =600 A, -diF/dt=5100 A/μs (T _{vj} =150°C), V _R =600V, V _{GE} =-15V, T _J =150°C	450			A
Q _r	Recovered charge	I _F =600 A, -diF/dt=5100 A/μs (T _{vj} =150°C), V _R =600V, V _{GE} =-15V, T _J =150°C	130			μC
E _{rec}	Reverse recovery energy	I _F =600 A, (T _{vj} =150°C), V _R =600V, V _{GE} =-15V, T _J =150°C	78.0			mJ
t _{rr}	Reverse recovery time	T _J =150°C, I _F =600A	420			ns
R _{th(j-c)}	Thermal resistance(1 device)	IGBT			0.04	°C/W
		FWD			0.07	°C/W
R _{th(c-f)}	Contact thermal resistance (1 device)	With thermal compound	0.050			°C/W
R ₂₅	Resistance	T _{vj} =25°C	5			kΩ
ΔR/R	Deviation of R100	T _C =100°C, R ₁₀₀ =493W	-5		5	%
P ₂₅	Power dissipation	T _C =25°C	20			mW
B _{25/50}	B-value	R ₂ =R ₂₅ exp [B _{25/50} (1/T ₂ -1/(298,15K))]	3375			K
B _{25/80}		R ₂ =R ₂₅ exp [B _{25/80} (1/T ₂ -1/(298,15K))]	3411			K
B _{25/100}		R ₂ =R ₂₅ exp [B _{25/100} (1/T ₂ -1/(298,15K))]	3433			K
Screw torque	Mounting(M5)	/	3.0	4.5	6.0	N·m
	Terminals(M6)	/	3.0	4.5	6.0	N·m
W _t	Weight				345	g
Outline	465H3					







Outline & Circuit Diagram



Unmarked dimensional tolerance: $\pm 0.5\text{mm}$

TECHSEM reserves the right to change specifications without notice.