**Features:**

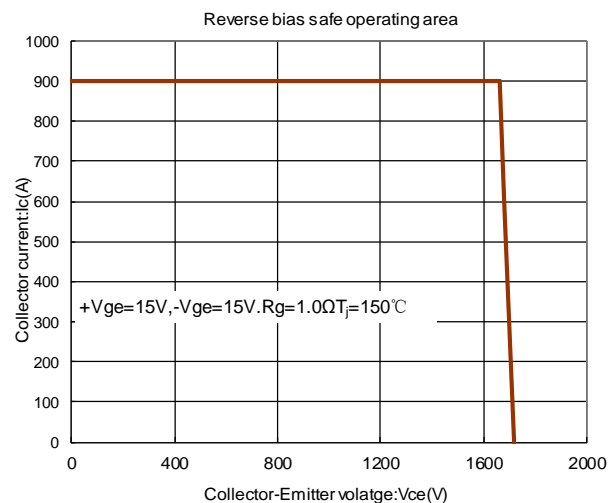
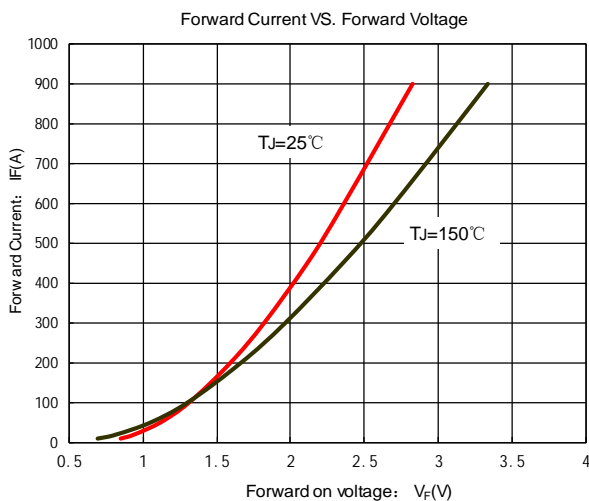
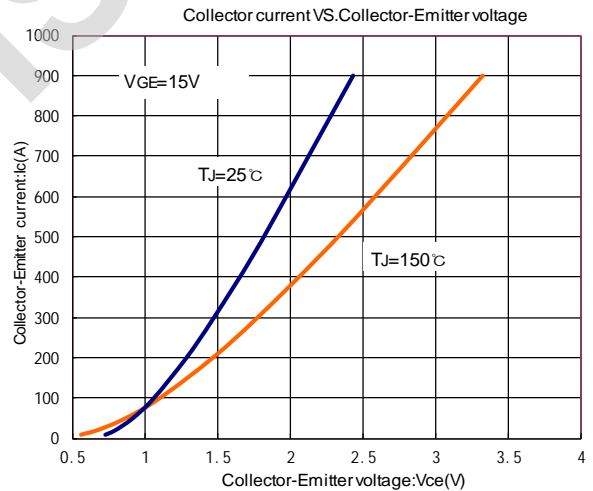
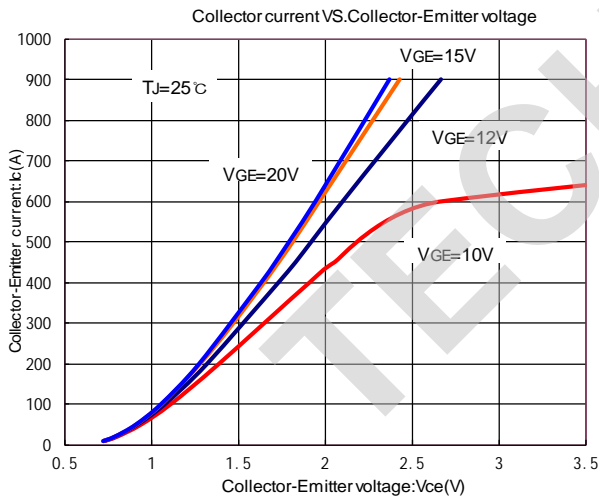
- n Low $V_{CE(sat)}$ Trench IGBT technology
- n $V_{CE(sat)}$ with positive temperature coefficient
- n Low inductance case
- n Fast & soft reverse recovery anti-parallel FWD
- n Isolated copper baseplate using DBC technology

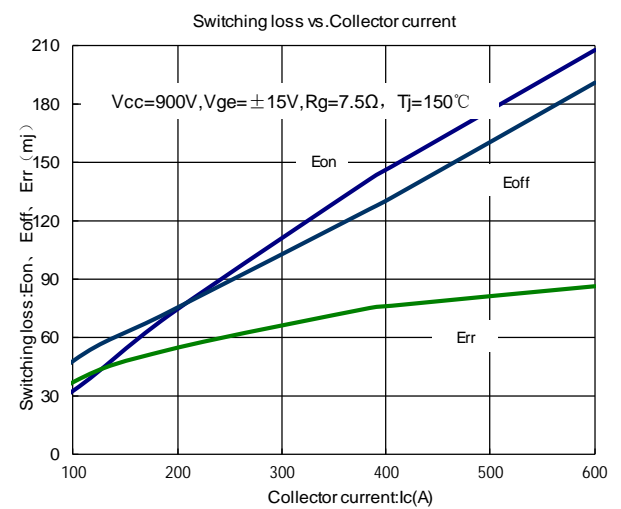
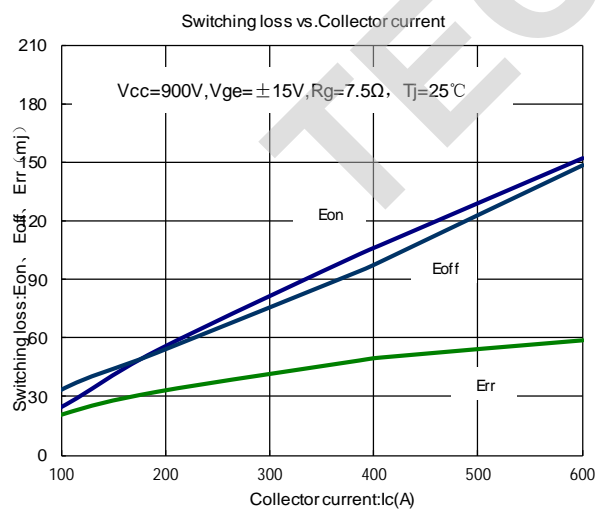
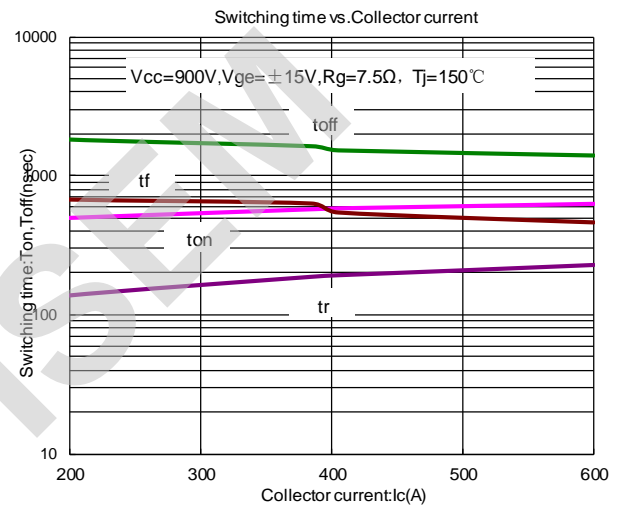
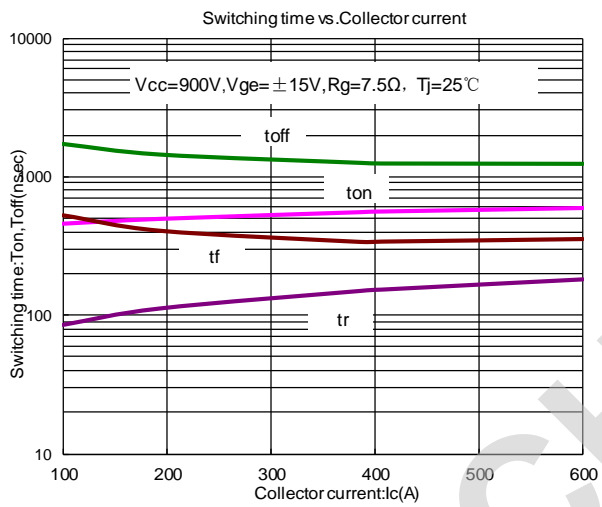
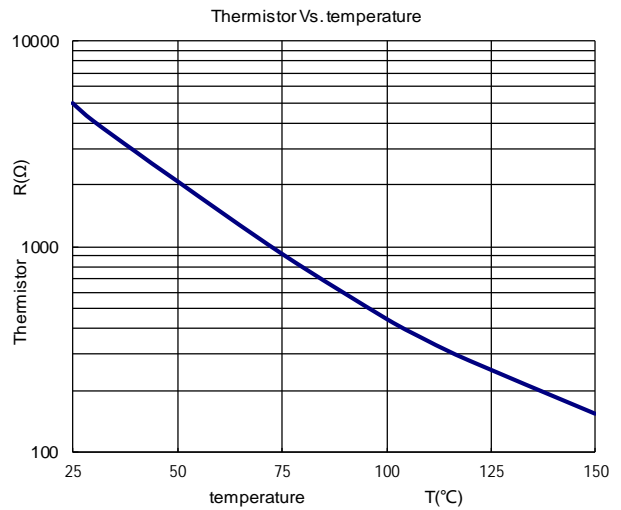
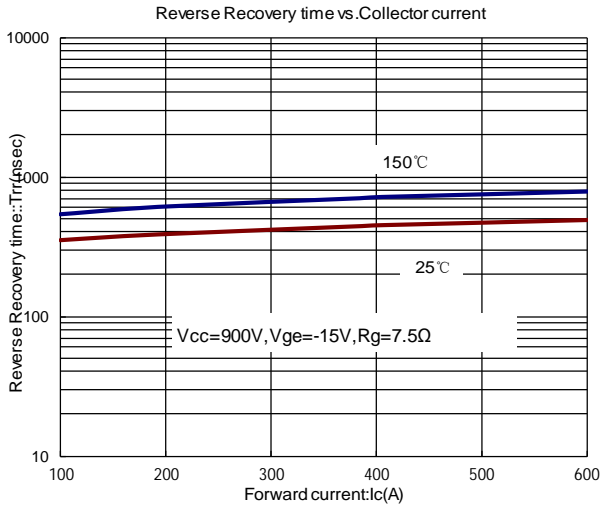
Typical Applications:

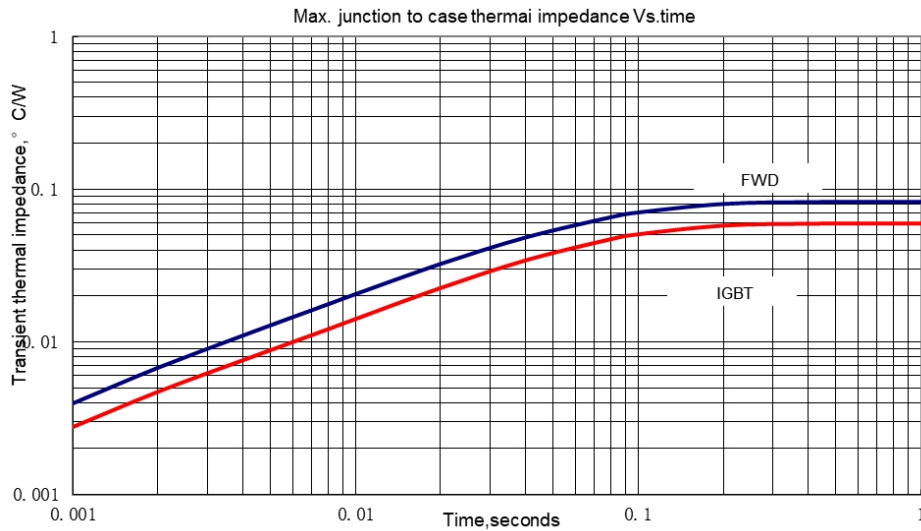
- n Inverter for motor drive
- n AC and DC servo drive amplifier
- n Uninterruptible power supply

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VALUE			UNIT
			Min	Type	Max	
V_{CES}	Collector-Emitter voltage	$T_J=25^\circ\text{C}$			1700	V
V_{GES}	Gate-Emitter voltage	$T_J=25^\circ\text{C}$			± 20	V
I_C	Collector current	Continuous @ $T_C=100^\circ\text{C}$			450	A
I_{CM}		$T_P=1\text{ms}$			900	A
P_D	Collector power dissipation	$T_J=175^\circ\text{C}$, 1 device			2542	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	4000			V
I_{CES}	Zero gate voltage collector current	$T_J=25^\circ\text{C}$, $V_{CE}=1700\text{V}$, $V_{GE}=0\text{V}$			5.0	mA
I_{GES}	Gate-Emitter leakage current	$T_J=25^\circ\text{C}$, $V_{CE}=0\text{V}$, $V_{GE}=\pm 20\text{V}$			400	nA
$V_{GE(th)}$	Gate-Emitter threshold voltage	$T_J=25^\circ\text{C}$, $V_{CE}=20\text{V}$, $I_C=12\text{mA}$	5.6	6.2	6.8	V
$V_{CE(sat)}$	Collector-Emitter saturation voltage	$T_J=25^\circ\text{C}$, $V_{GE}=15\text{V}$, $I_C=300\text{A}$		1.85	2.20	V
		$T_J=125^\circ\text{C}$, $V_{GE}=15\text{V}$, $I_C=300\text{A}$		2.25		V
		$T_J=150^\circ\text{C}$, $V_{GE}=15\text{V}$, $I_C=300\text{A}$		2.35		V
R_{Gint}	Internal Gate Resistance			1.67		Ω
C_{ies}	Input capacitance	$T_J=25^\circ\text{C}$, $V_{CE}=25\text{V}$, $V_{GE}=0\text{V}$, $f=1\text{MHz}$		12		nF
C_{res}	Reverse transfer capacitance			0.5		nF
t_{on}	Turn-on Delay time	$T_J=150^\circ\text{C}$, $V_{CC}=900\text{V}$, $I_C=450\text{A}$, $V_{GE}=\pm 15\text{V}$, $R_G=7.5\Omega$		600		ns
t_r	Rise Time			200		ns
t_{off}	Turn-off Delay time			1300		ns
t_f	Fall Time			500		ns
E_{on}	Turn-on Switching Loss			167		mJ
E_{off}	Turn-off Switching Loss		140		mJ	
I_{sc}	SC Date	$T_P \leq 10\mu\text{s}$, $V_{GE}=15\text{V}$, $T_J=150^\circ\text{C}$, $V_{CC}=1000\text{V}$, $V_{CEM} \leq 1700\text{V}$		1800		A
t_{sc}	Short circuit withstand time	$V_{GE}=15\text{V}$, $V_{CES} \leq 600\text{V}$	10			μs

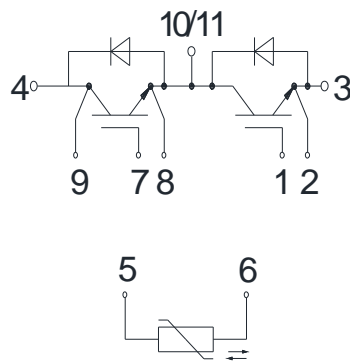
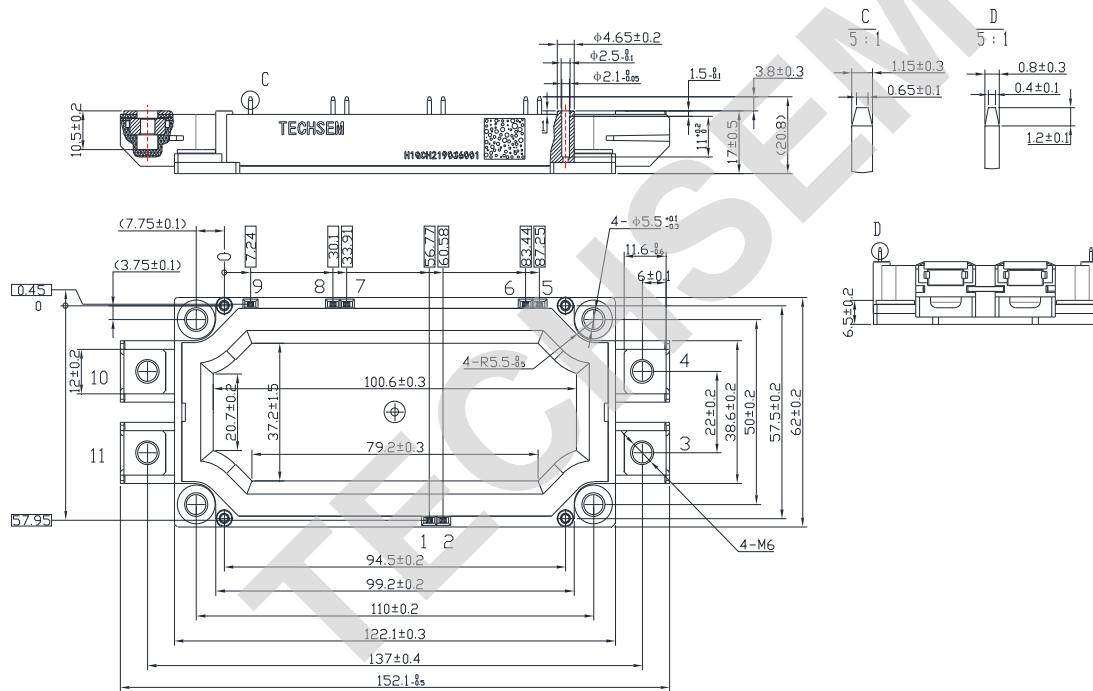
V _F	Forward on voltage	T _j =25°C ,I _F =300A,V _{GE} =0V		1.80	2.25	V
		T _j =125°C ,I _F =300A,V _{GE} =0V		1.95		V
		T _j =150°C ,I _F =300A,V _{GE} =0V		1.90		V
I _{RM}	Peak Reverse Recovery Current	V _R =900V,I _F =450A,V _{GE} =-15V,T _j =150°C		585		A
Q _r	Recovered Charge			209		μC
E _{rec}	Reverse Recovery Energy			75		mJ
t _{rr}	Reverse recovery time	I _F =450A, V _R =600A		710		ns
R _{th(j-c)}	Thermal resistance	per IGBT			0.059	°C/W
		per Diode			0.083	°C/W
R _{th(c-f)}	Contact thermal resistance (per module)	With thermal compound		0.009		°C/W
R ₂₅	Rated Resistance	T _j =25°C		5.0		kΩ
ΔR/R	Deviation of R ₁₀₀	T _C =100°C,R ₁₀₀ =493.3Ω	-5		5	%
P ₂₅	Power Dissipation	Continuous@ T _C =100°C			20.0	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}	B-value	R ₂ =R ₂₅ exp[B _{25/80} (1/T ₂ -1/(298.15K))]		3411		K
B _{25/100}	B-value	R ₂ =R ₂₅ exp[B _{25/100} (1/T ₂ -1/(298.15K))]		3433		K
Screw torque	Mounting(M5)	/	3		6.0	N·m
	Terminals(M6)	/	3		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.