Features：

- **n** High short circuit capability, self limiting short circuit current
- **n** Fast switching and short tail current
- **n** Low switching losses
- **n** 10kΩ Gate Protected Resistance Inside

Typical Applications：

- **n** Inverter for Motor Drive
- **n** High Power Converters
- **n** Medical applications
- **n** UPS systems

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VALUE			UNIT
			Min	Type	Max	
V_{CES}	Collector-Emitter voltage	T_j=25°C			600	V
V_{GES}	Gate-Emitter voltage	T_j=25°C			±20	V
I_C	Collector current	T_C=60°C			600	A
		T_C=25°C			720	A
P_C	Collector power dissipation	T_j=25°C ,1 device			1650	W
T_j	Junction temperature	/			175	℃
T_{stg}	Storage temperature	/			125	℃
V_{iso}	Isolation between terminal and copper base	T_j=25°C , AC：1minute			3000	V
Screw torque	Heatsink(M6)	/			5	N·m
	Terminals(M6)				5	N·m
	Terminals(M4)	/			1.1	N·m
I_{CES}	Zero gate voltage collector current	T_j=25°C ,V_{CE}=600V，V_{GE}=0V			1	mA
I_{GES}	Gate-Emitter leakage current	T_j=25°C ,V_{CE}=0V，V_{GE}=±15V			±0.4	μA
$V_{GE(th)}$	Gate-Emitter threshold voltage	T_j=25°C ,V_{CE}= V_{GE}，I_C=9.6mA	4.9	5.8	6.5	V
$V_{CE(sat)}$	Collector-Emitter saturation voltage	T_j=25°C ,V_{GE}=15V，I_C=600A		1.45	1.90	V
		T_j=125°C ,V_{GE}=15V，I_C=600A		1.60		V
C_{ies}	Input capacitance	T_j=25°C ,V_{CE}=25V，V_{GE}=0V，f=1MHz		37.2		nF
t_{on}	Turn-on time	T_j=125°C ,V_{CC}=300V，I_C=100A，V_{GE}=±15V，R_G=10Ω，Inductive load		290		ns
t_r				90		ns
t_{off}	Turn-off time			520		ns
t_f				100		ns
V_F	Forward on voltage	T_j=25°C ,I_F=600A		1.55	1.90	V
		T_j=125°C ,I_F=600A		1.50		V
Q_{rr}	Reverse recovery charge	T_j=125°C ,I_F=600A ,di/dt=-6800A/μs,V_R=300V		50		μC
$R_{th(j-c)}$	Thermal resistance(1 device)	IGBT			0.09	℃/W
Outline	452H2					

Typical Output Characteristics IGBT-Inverter

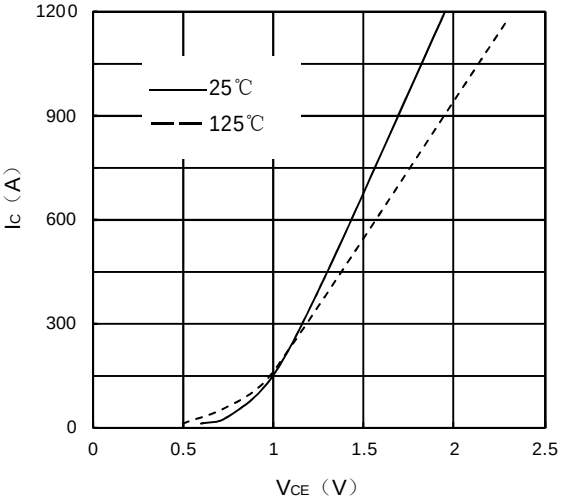


Fig1

Typical Output Characteristics IGBT-Inverter

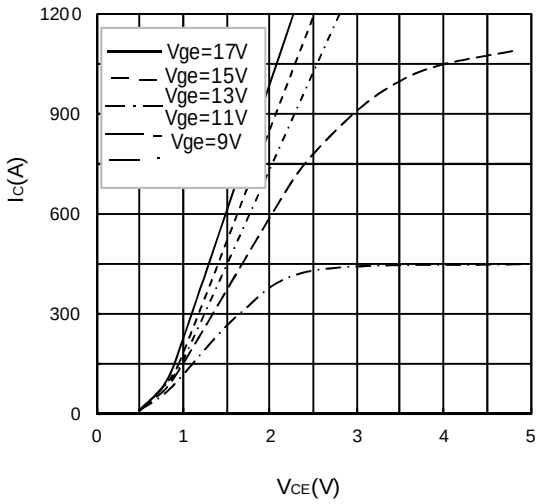


Fig2

Typical Transfer Characteristics IGBT-Inverter

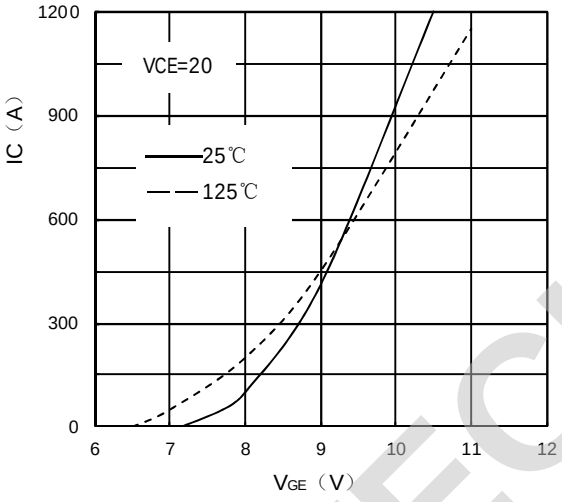


Fig3

Switching Energy vs Gate Resistor IGBT-Inverter

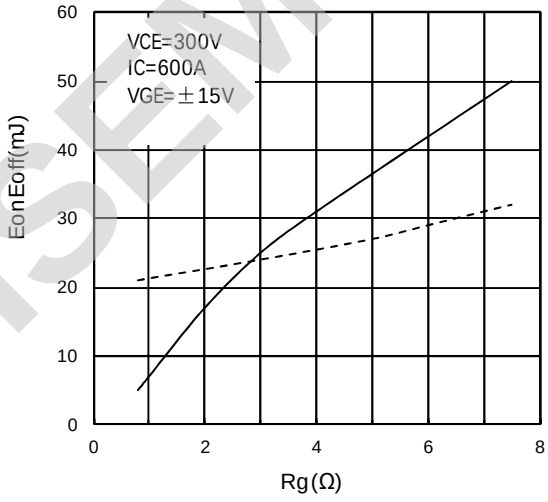


Fig4

Switching Energy vs Collector Current IGBT-Inverter

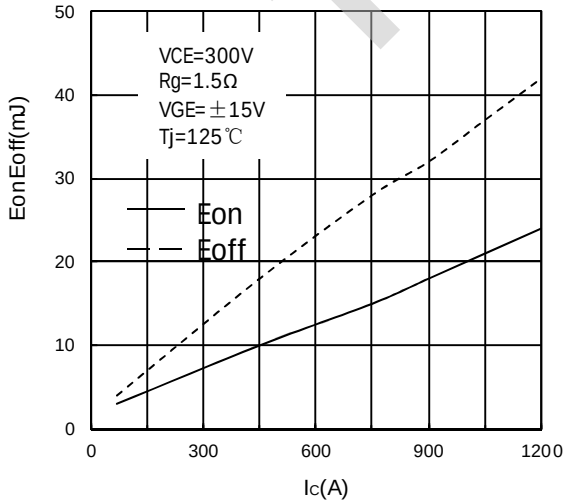


Fig5

Reverse Biased Safe Operating Area IGBT-Inverter

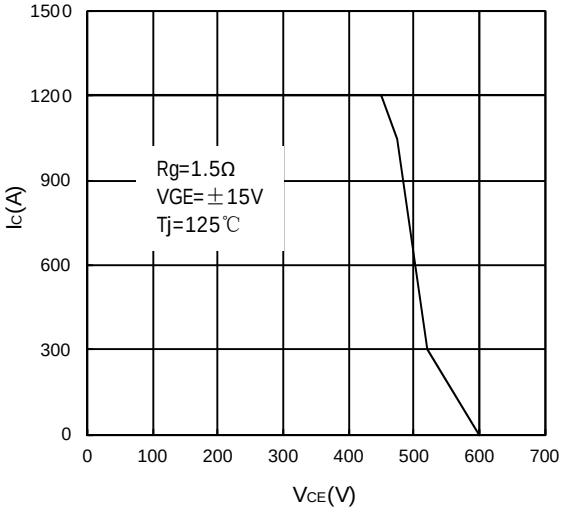


Fig6

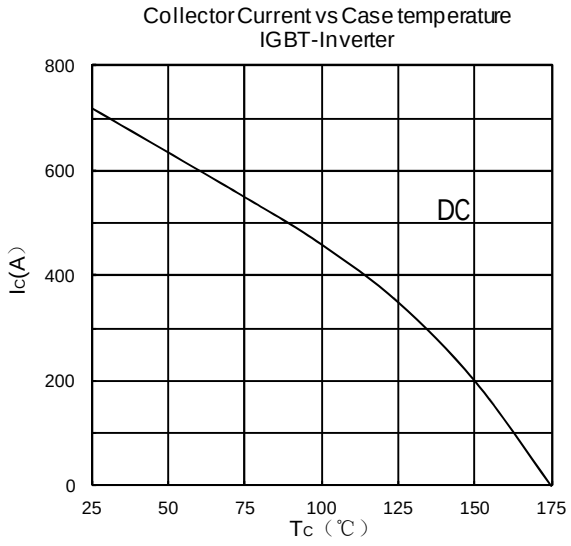


Fig7

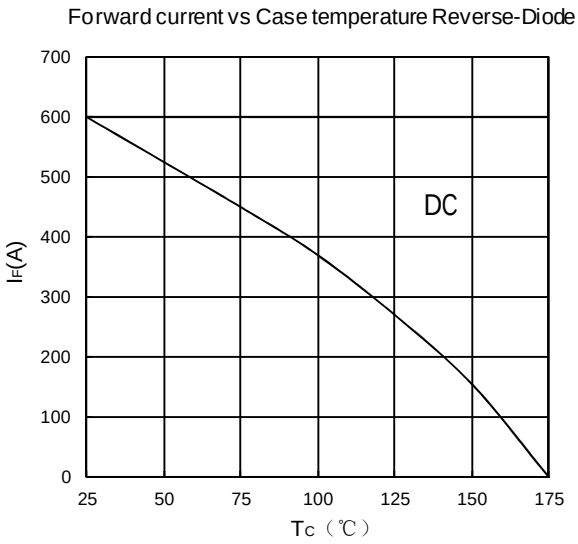


Fig8

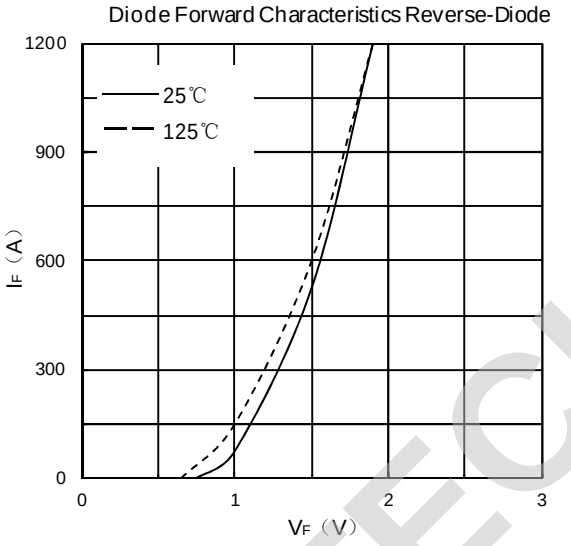


Fig9

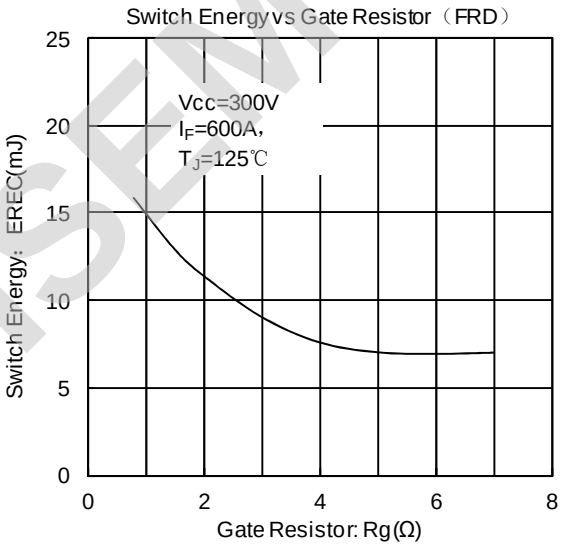


Fig10

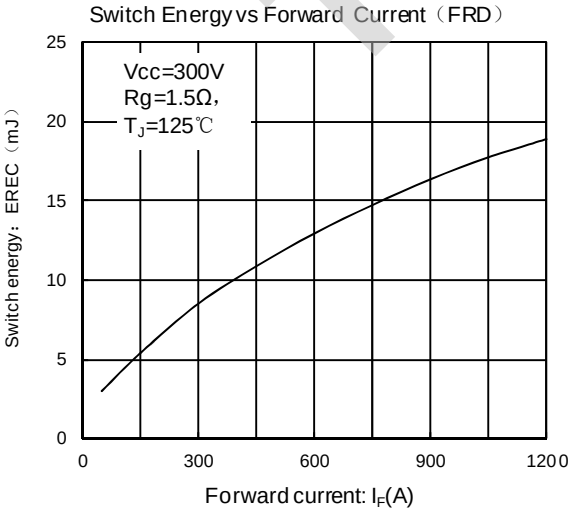


Fig11

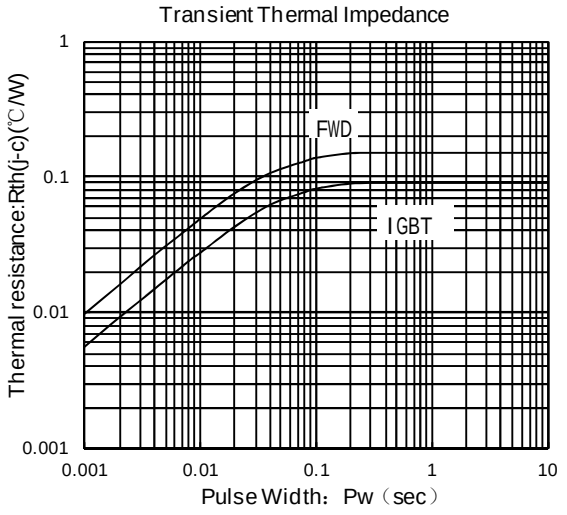
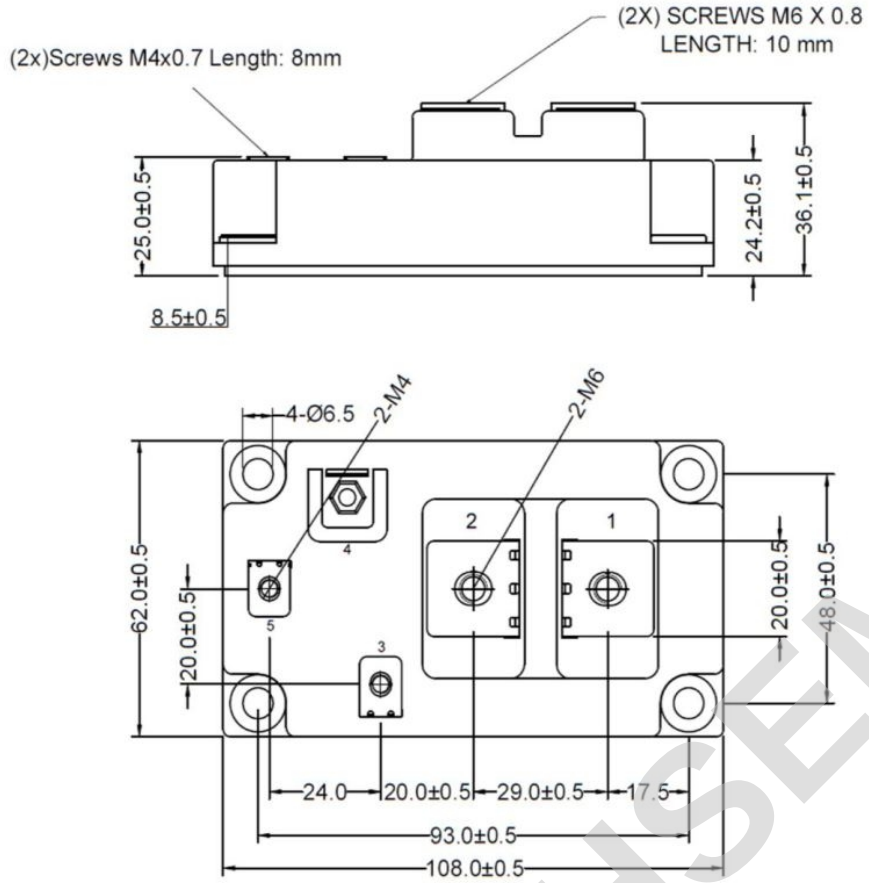
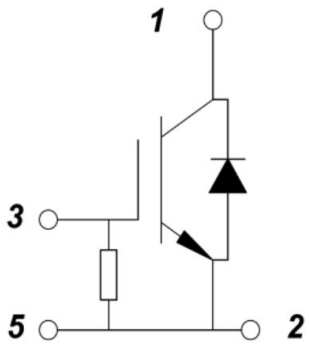


Fig12

Outline & Circuit Diagram





Unmarked dimensional tolerance：±0.5mm

TECHSEM reserves the right to change specifications without notice.