Features：

- Low $V_{CE(sat)}$ trench IGBT technology
- Low switching losses
- 10μs short circuit capability
- $V_{CE(sat)}$ with positive temperature coefficient

Typical Applications：

- AC inverter drives mains 575-750V AC
- Public transport (auxiliary syst.)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VALUE			UNIT
			Min	Type	Max	
V_{CES}	Collector-Emitter voltage	T_j=25°C			1700	V
V_{GES}	Gate-Emitter voltage	T_j=25°C			±20	V
I_C	Collector current	Continuous@ T_C=80°C			200	A
I_{CP}		T_P= 1ms			400	A
P_D	Maximum Power Dissipation	T_j=175°C ,1 device			1515	W
T_j	Junction temperature	/			175	℃
T_{stg}	Storage temperature	/	-40		125	℃
V_{iso}	Isolation between terminal and copper base	T_j=25°C , AC：1minute	4000			V
Screw torque	Mounting(M6)	/	3.5		5.0	N·m
	Terminals(M6)	/	3.5		5.0	N·m
I_{CES}	Zero gate voltage collector current	T_j=25°C ,V_{CE}=1700V，V_{GE}=0V			3.0	mA
I_{GES}	Gate-Emitter leakage current	T_j=25°C ,V_{CE}=0V，V_{GE}=±20V			±0.4	μA
$V_{GE(th)}$	Gate-Emitter threshold voltage	T_j=25°C ,V_{CE}=20V，I_C=8mA	5.2	5.8	6.4	V
$V_{CE(sat)}$	Collector-Emitter saturation voltage	T_j=25°C ,V_{GE}=15V，I_C=200A		2.0		V
		T_j=125°C ,V_{GE}=15V，I_C=200A		2.4		V
R_{Gint}	Internal gate resistor	T_j=25°C		3.8		Ω
C_{ies}	Input capacitance	T_j=25°C ,V_{CE}=25V，V_{GE}=0V，f=1MHz		18.0		nF
C_{res}	Reverse transfer capacitance			0.60		nF
t_{on}	Turn-on time	T_j=125°C ,V_{CC}=900V，I_C=200A，V_{GE}=±15V， R_g=6.8Ω，Inductive load		310		ns
t_r				98		ns
t_{off}	Turn-off time			1008		ns
t_f				202		ns
E_{on}	Turn-on energy loss per pulse			78		mJ
E_{off}	Turn-off energy loss per pulse			63		mJ
I_{SC}	SC data	t_{SC}≤10μs, V_{GE}=15V, T_j=125℃, V_{CC}=1000V, V_{CEM}≤1700V		800		A
tsc	Short circuit withstand time	T_j=125°C	10			μs

V_F	Forward on voltage	T_j=25°C ,I_F=200A		1.8		V
		T_j=125°C ,I_F=200A		1.9		V
I_{RM}	Peak reverse recovery current	I_F=200A, -diF/dt=3600A/µs , V_R=900V, V_{GE}=-15V, T_j=125°C		231		A
Q_r	Recovered charge			85.4		µC
E_{rec}	Reverse recovery energy			48		mJ
$R_{th(j-c)}$	Thermal resistance(1 device)	IGBT			0.099	℃/W
		FWD			0.19	℃/W
$R_{th(c-f)}$	Contact thermal resistance (1 device)	With thermal compound		0.035		℃/W
W_t	Weight				310	g
Outline	M42a					

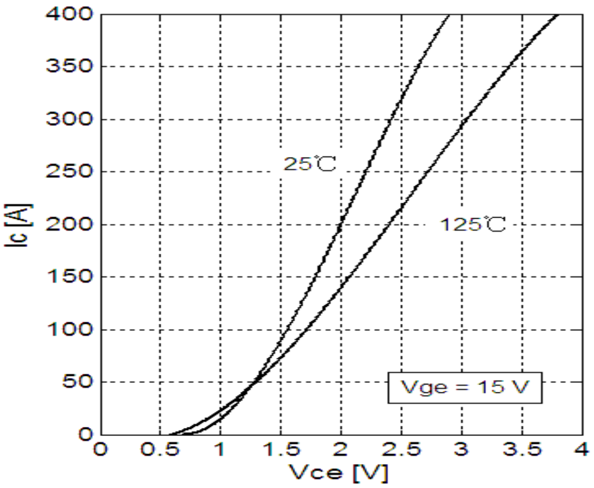


Fig 1. IGBT Typical Output Characteristics

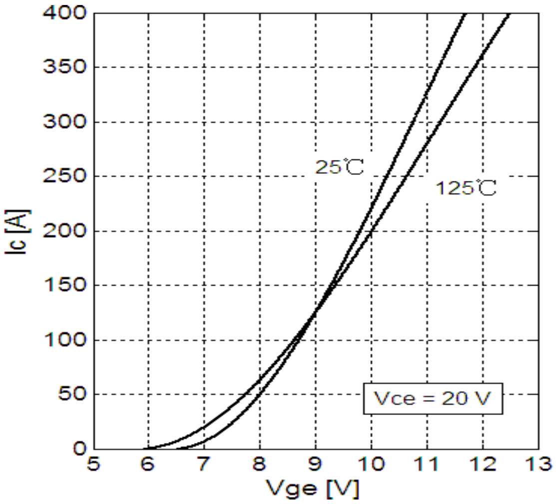


Fig 2. IGBT Typical Transfer Characteristics

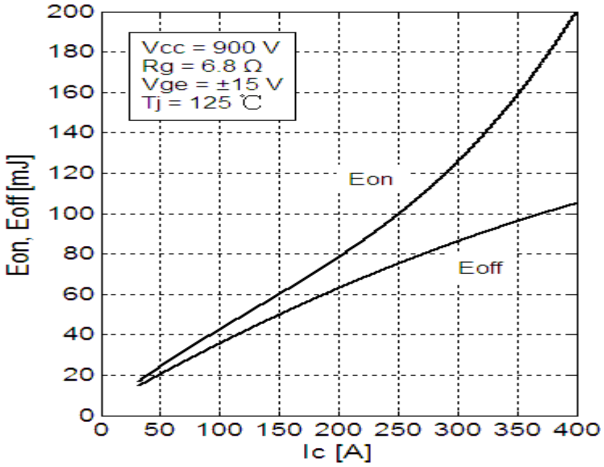


Fig 3. IGBT Switching Loss vs. Collector Current

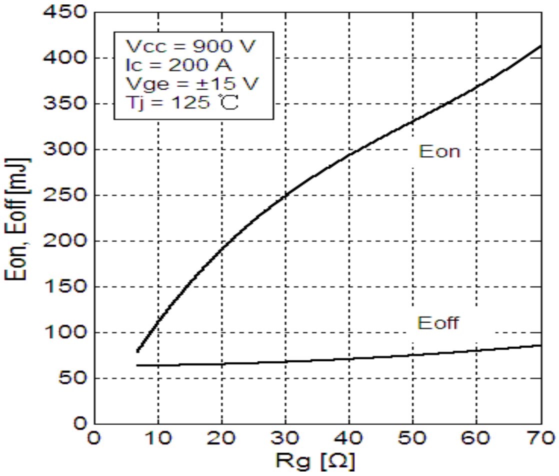


Fig 4. IGBT Switching Loss vs. Gate Resistor

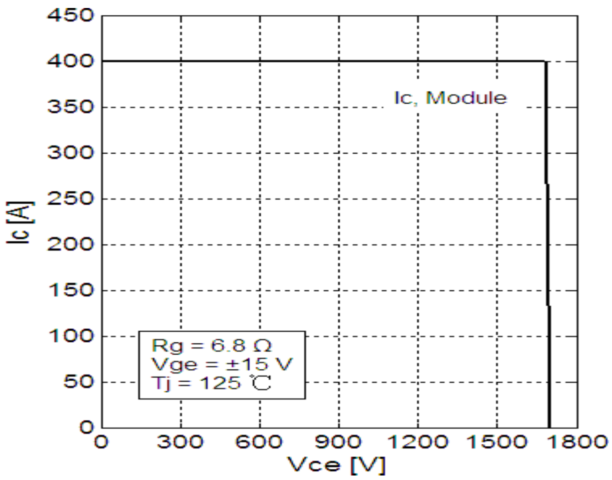


Fig 5. RBSOA

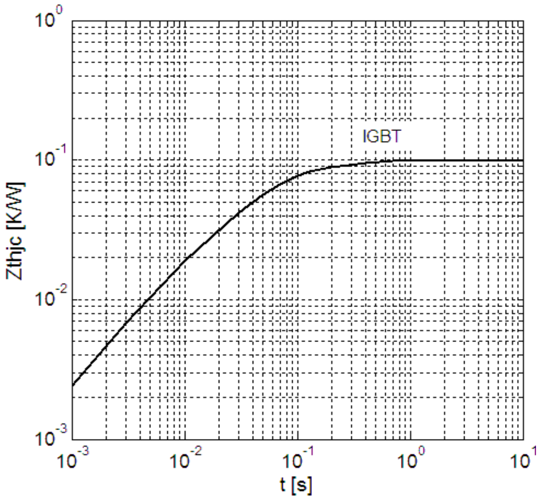


Fig 6. IGBT Transient Thermal Impedance

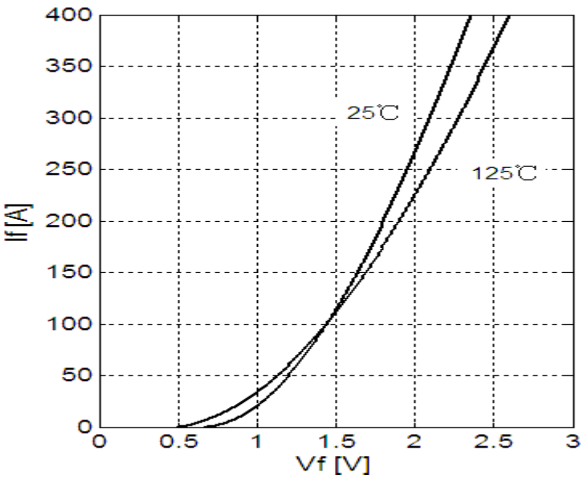


Fig 7. Forward Characteristics of Diode

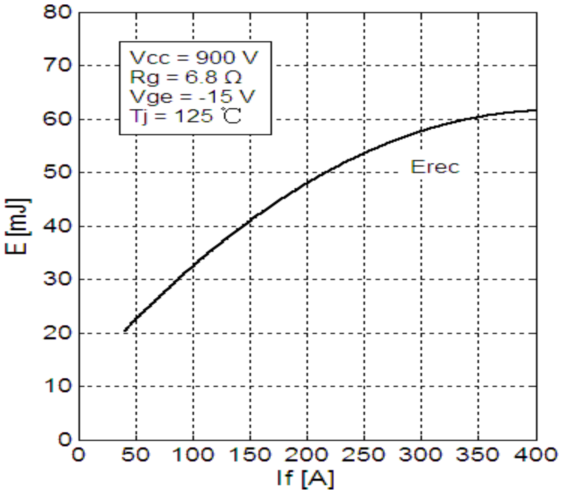


Fig 8. Diode Switching Loss vs. Collector Current

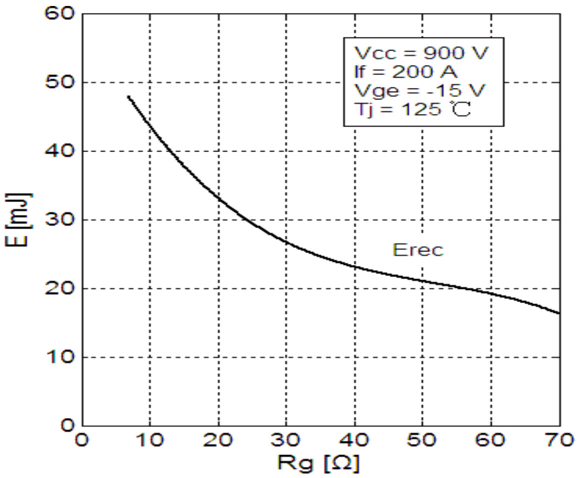


Fig9. Diode Switching Loss vs. Gate Resistor

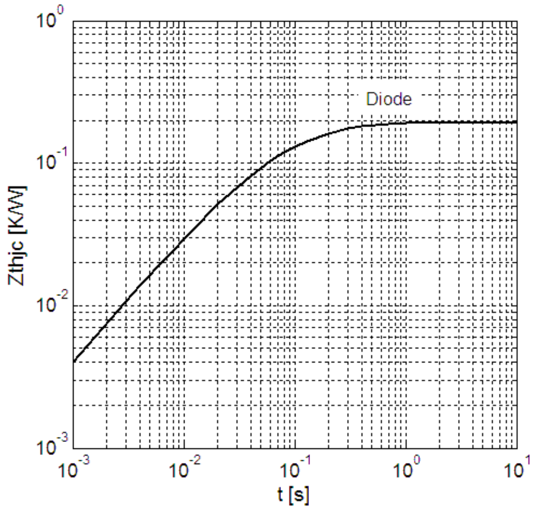
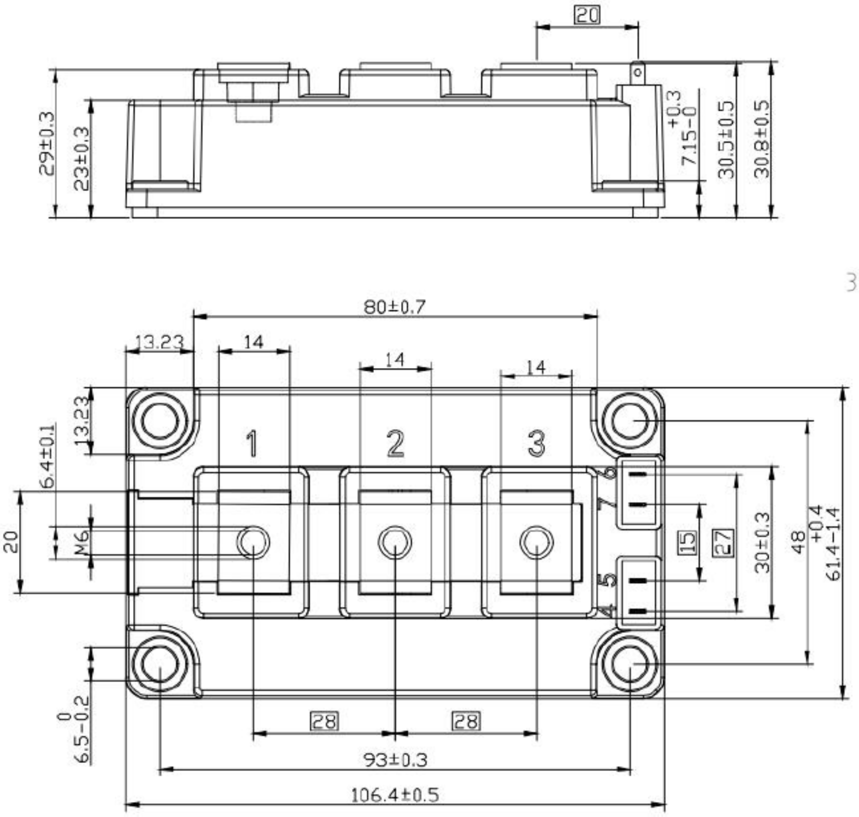
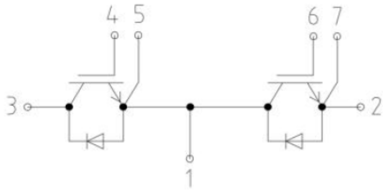


Fig 10. Diode Transient Thermal Impedance

Outline & Circuit Diagram

Unmarked dimensional tolerance： ±0.5mm





Unmarked dimensional tolerance：±0.5mm