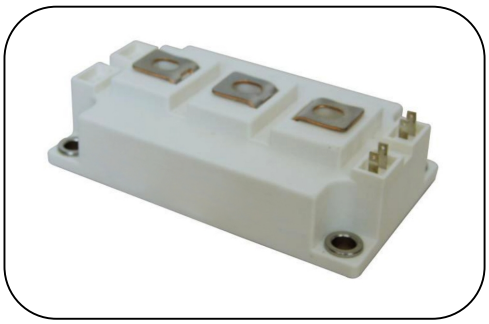


Features：

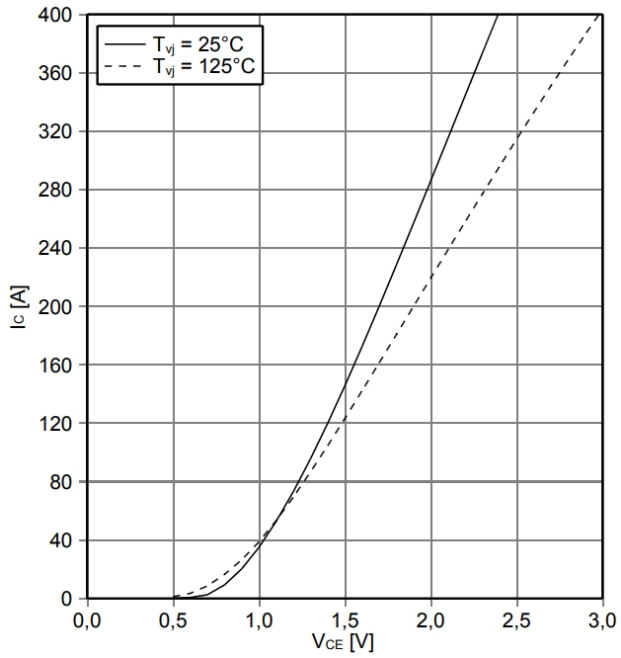
- **n** Low $V_{CE\ (sat)}$ IGBT
- **n** Low switching losses
- **n** 10us short circuit capability
- **n** Fast & soft reversere covery FRD
- **n** Temperature sense included
- **n** Maximum junction temperature 175℃
- **n** Industry standard package with soldering pins for PCB mounting

Typical Applications：

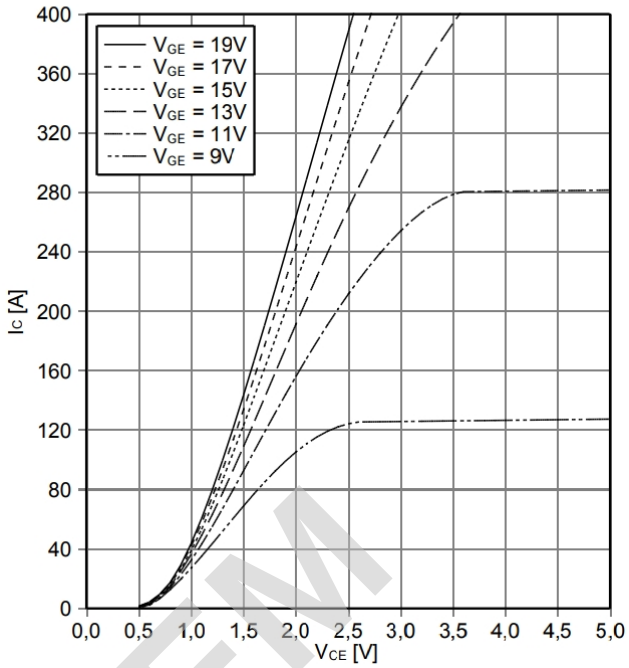
- **n** Inverter for Motor Drive

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VALUE			UNIT
			Min	Type	Max	
V_{CES}	Collector-Emitter voltage	T_j=25°C			1200	V
V_{GES}	Gate-Emitter voltage	T_j=25°C			±20	V
I_C	Collector current	Continuous@ T_C=100°C			200	A
I_{CP}		T_j=25°C , 1ms			400	A
P_C	Collector power dissipation				1200	W
T_j	Junction temperature	/			150	℃
T_{stg}	Storage temperature	/	-40		125	℃
V_{iso}	Isolation between terminal and copper base	T_j=25°C , AC：1minute		2500		V
Screw torque	Mounting(M5)	/	3.0	4.0	5.0	N·m
I_{CES}	Zero gate voltage collector current	T_j=25°C ,V_{CE}=1200V，V_{GE}=0V			5.0	mA
I_{GES}	Gate-Emitter leakage current	T_j=25°C ,V_{CE}=0V，V_{GE}=±20V			±400	nA
$V_{GE(th)}$	Gate-Emitter threshold voltage	T_j=25°C ,V_{CE}=20V，I_C=1.7mA	5.0	6.0	7.0	V
$V_{CE(sat)}$	Collector-Emitter saturation voltage	T_j=25°C ,V_{GE}=15V，I_C=200A		2.00	2.50	V
		T_j=125°C ,V_{GE}=15V，I_C=200A		2.40		V
R_{Glint}	Integrated Gate Resistor			6		Ω
C_{ies}	Input capacitance	T_j=25°C ,V_{CE}=25V，V_{GE}=0V，f=1MHz		18		nF
t_{on}	Turn-on time	T_j=125°C ,V_{CC}=600V，I_C=200A，V_{GE}=±15V，R_G=10Ω，Inductive load		85		ns
t_r				45		ns
t_{off}	Turn-off time			400		ns
t_f				130		ns
tsc	Short circuit withstand time	T_j=150°C ,Vcc=720V,VGE=±15V，R_G=10Ω	10			μs
V_F	Forward on voltage	T_j=25°C ,I_F=200A		2.00	2.20	V
		T_j=125°C ,I_F=200A		2.00		V
t_{rr}	Reverse recovery time	T_j=125°C ,I_F=200A		350		ns
		T_j=150°C ,I_F=200A		260		ns
$R_{th(j-c)}$	Thermal resistance(1 device)	IGBT			0.08	℃/W
		FWD			0.1	℃/W
$R_{th(c-f)}$	Contact thermal resistance (1 device)	With thermal compound		0.050		℃/W
W_t	Weight				350	g
Outline	454H3P					

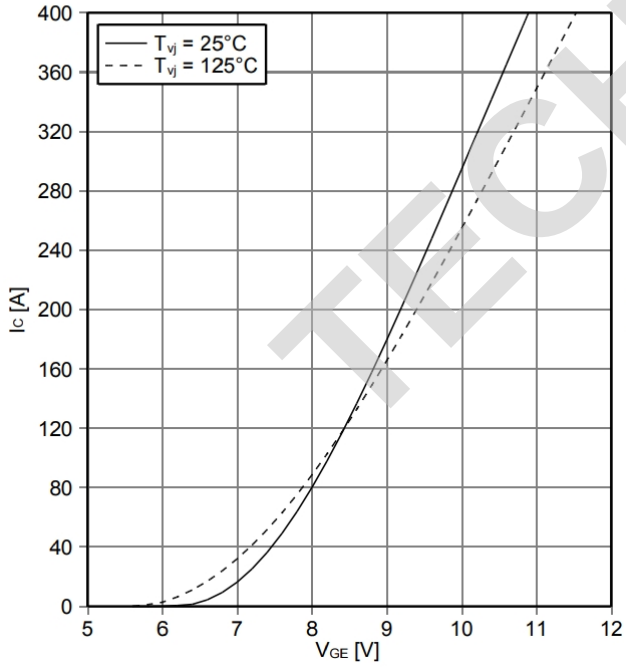
output characteristic IGBT,Inverter (typical)
$I_C = f(V_{CE})$
$V_{GE} = 15$ V



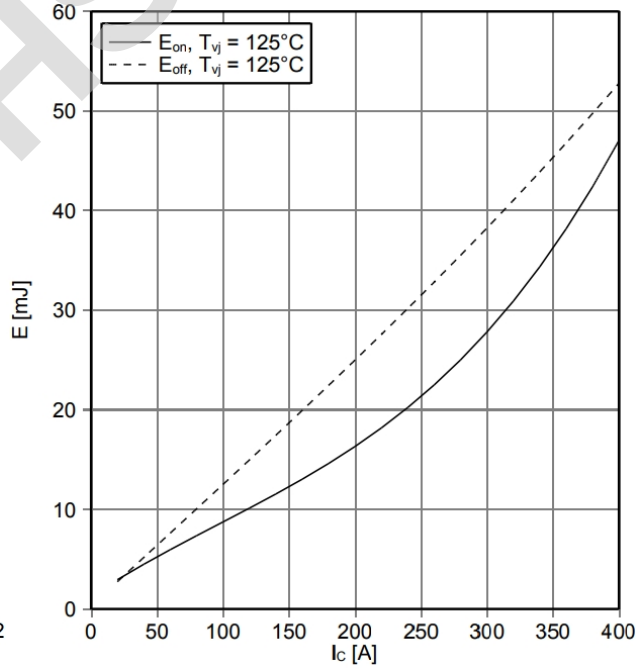
output characteristic IGBT,Inverter (typical)
$I_C = f(V_{CE})$
$T_{vj} = 125°C$



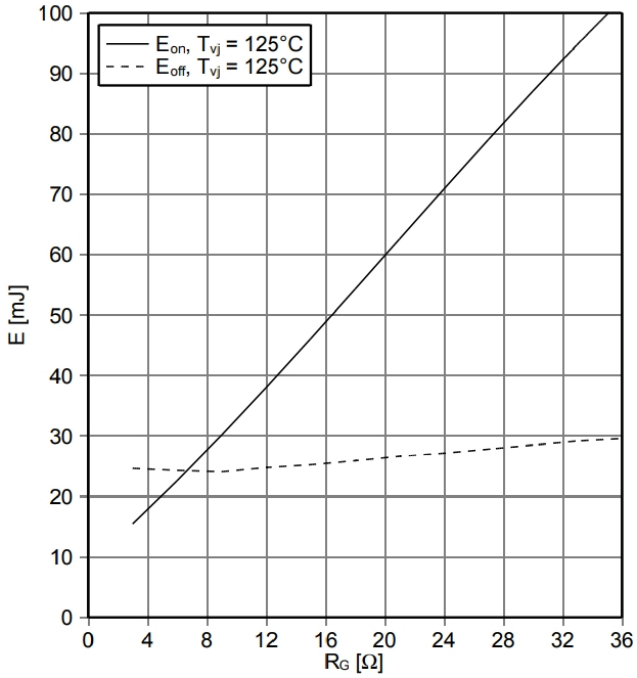
transfer characteristic IGBT,Inverter(typical)
$I_C = f(V_{GE})$
$V_{CE} = 20$ V



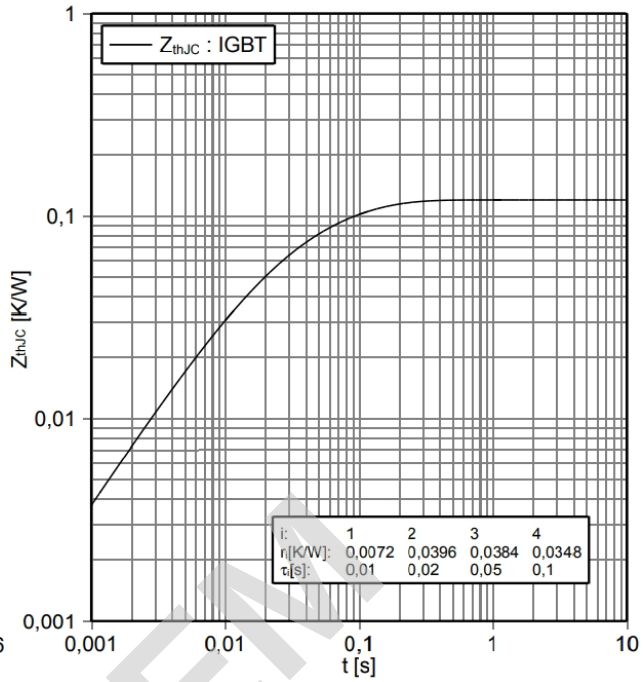
switching losses IGBT,Inverter (typical)
$E_{on} = f(I_C)$, $E_{off} = f(I_C)$
$V_{GE} = \pm 15$ V, $R_{Gon} = 3.6\ \Omega$, $R_{Goff} = 3.6\ \Omega$, $V_{CE} = 600$ V



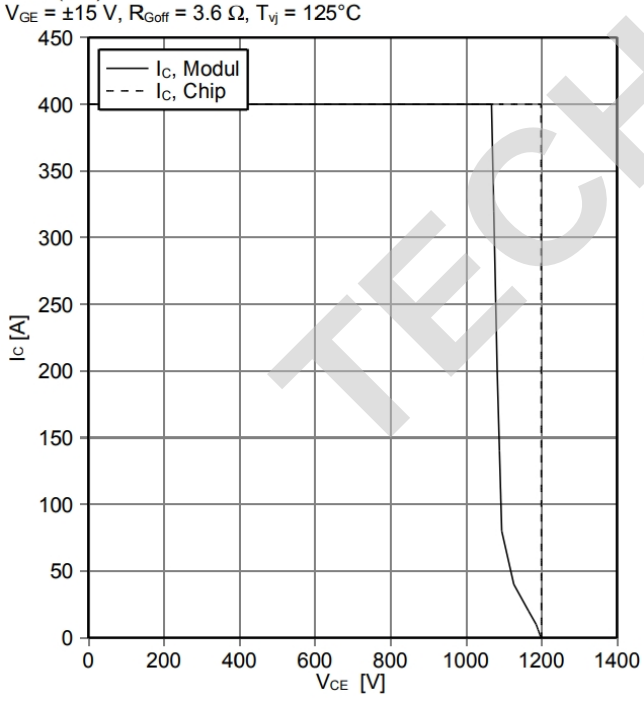
switching losses IGBT,Inverter (typical)
$E_{on} = f(R_G)$, $E_{off} = f(R_G)$
V_{GE} = ±15 V, I_C = 200 A, V_{CE} = 600 V



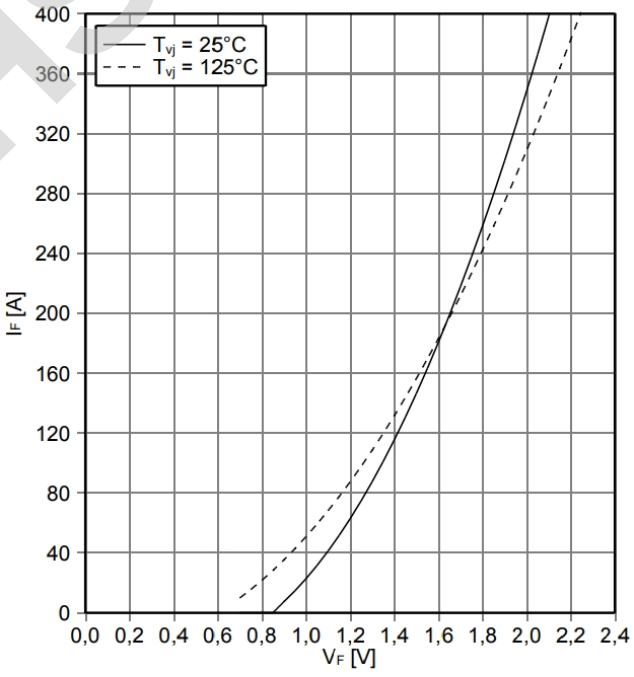
transient thermal impedance IGBT,Inverter
$Z_{thJC} = f(t)$



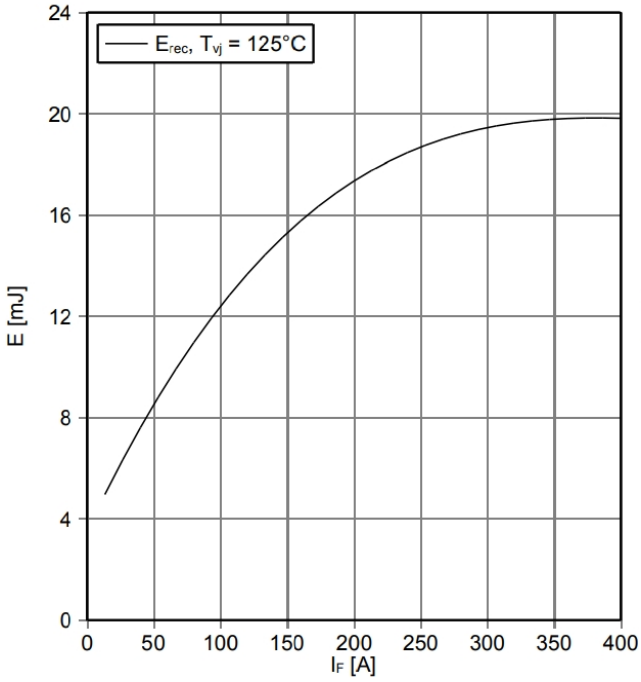
reverse bias safe operating area IGBT,Inverter (RBSOA)
$I_C = f(V_{CE})$
V_{GE} = ±15 V, R_{Goff} = 3.6 Ω, T_{vj} = 125°C



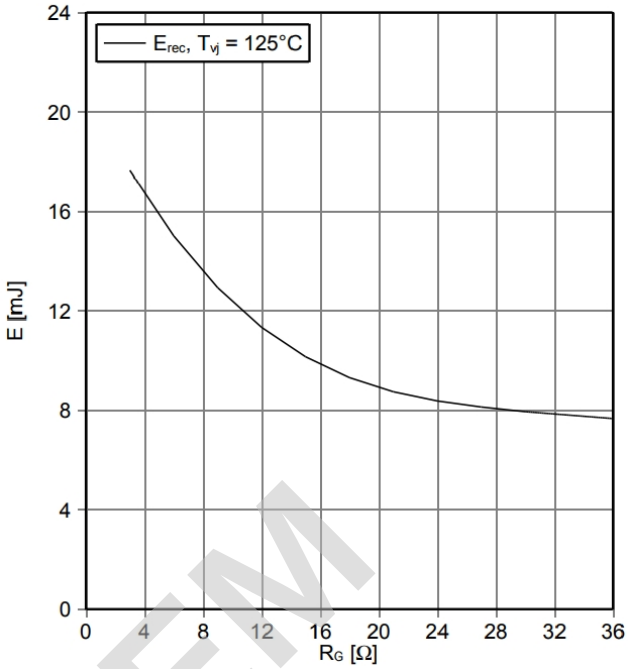
forward characteristic of Diode, Inverter (typical)
$I_F = f(V_F)$



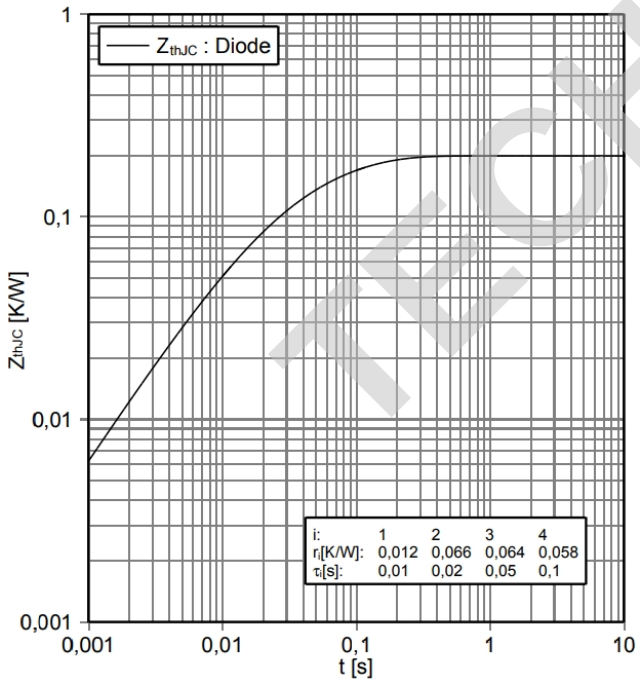
switching losses Diode, Inverter (typical)
$E_{rec} = f(I_F)$
$R_{Gon} = 3.6\ \Omega$, $V_{CE} = 600$ V



switching losses Diode, Inverter (typical)
$E_{rec} = f(R_G)$
$I_F = 200$ A, $V_{CE} = 600$ V



transient thermal impedance Diode, Inverter
$Z_{thJC} = f(t)$



Outline：