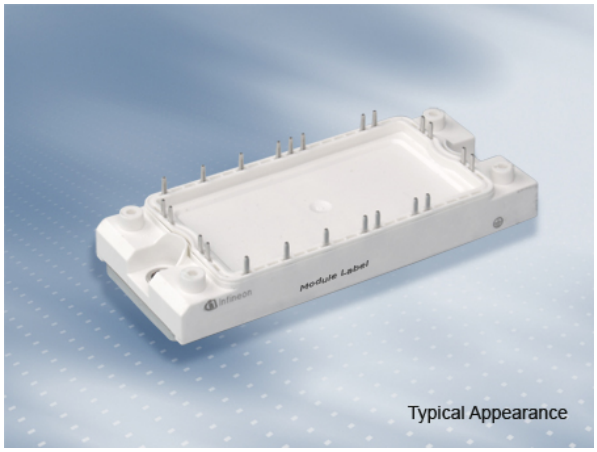
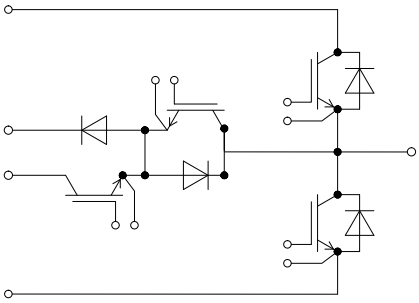
EconoPACK™2 模块 采用第二类中点钳位拓扑 (NPC2) 带有温度检测NTC
EconoPACK™2 module with active "Neutral Point Clamp 2" topology and NTC





V_{CES} = 1200V
$I_{C\ nom}$ = 150A / I_{CRM} = 300A

潜在应用
- UPS系统
- 三电平应用
- 太阳能应用
- 电机传动

Potential Applications
- UPS systems
- 3-level-applications
- Solar applications
- Motor drives

电气特性
- $T_{vj\ op}$ = 150°C
- 低开关损耗
- 高速IGBT H3

Electrical Features
- $T_{vj\ op}$ = 150°C
- Low switching losses
- High speed IGBT H3

机械特性
- 2.5 kV 交流 1分钟 绝缘
- 焊接技术
- 符合RoHS

Mechanical Features
- 2.5 kV AC 1min insulation
- Solder contact technology
- RoHS compliant

Module Label Code

Barcode Code 128

Sample
00000123456000000000000

DMX - Code

Content of the Code	Digit
Module Serial Number	1 - 5
Module Material Number	6 - 11
Production Order Number	12 - 19
Datecode (Production Year)	20 - 21
Datecode (Production Week)	22 - 23

IGBT, 逆变器 / IGBT,Inverter

最大额定值 / Maximum Rated Values

集电极 - 发射极电压 Collector-emitter voltage	T_{vj} = 25°C	V_{CES}	1200	V
集电极电流 Implemented collector current		I_{CN}	200	A
连续集电极直流电流 Continuous DC collector current	T_C = 100°C, $T_{vj\,max}$ = 175°C	I_{CDC}	150	A
集电极重复峰值电流 Repetitive peak collector current	t_P = 1 ms	I_{CRM}	400	A
栅极 - 发射极峰值电压 Gate-emitter peak voltage		V_{GES}	+/-20	V

特征值 / Characteristic Values

			min.	typ.	max.	
集电极 - 发射极饱和电压 Collector-emitter saturation voltage	I_C = 150 A, V_{GE} = 15 V	$V_{CE\,sat}$		1,80 2,10 2,20	2,15	V V V
	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C					
栅极阈值电压 Gate threshold voltage	I_C = 7,60 mA, V_{CE} = V_{GE}, T_{vj} = 25°C	V_{GEth}	5,25	5,80	6,35	V
栅极电荷 Gate charge	V_{GE} = -15 / 15 V, V_{CE} = 350 V	Q_G		1,60		µC
内部栅极电阻 Internal gate resistor	T_{vj} = 25°C	R_{Gint}		3,8		Ω
输入电容 Input capacitance	f = 1000 kHz, T_{vj} = 25°C, V_{CE} = 25 V, V_{GE} = 0 V	C_{ies}		11,5		nF
反向传输电容 Reverse transfer capacitance	f = 1000 kHz, T_{vj} = 25°C, V_{CE} = 25 V, V_{GE} = 0 V	C_{res}		0,63		nF
集电极-发射极截止电流 Collector-emitter cut-off current	V_{CE} = 1200 V, V_{GE} = 0 V, T_{vj} = 25°C	I_{CES}			1,0	mA
栅极-发射极漏电流 Gate-emitter leakage current	V_{CE} = 0 V, V_{GE} = 20 V, T_{vj} = 25°C	I_{GES}			100	nA
开通延迟时间(电感负载) Turn-on delay time, inductive load	I_C = 150 A, V_{CE} = 350 V, V_{GE} = -15 / 15 V, R_{Gon} = 2,4 Ω	$t_{d\,on}$		0,19 0,20 0,20		µs µs µs
	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C					
上升时间(电感负载) Rise time, inductive load	I_C = 150 A, V_{CE} = 350 V, V_{GE} = -15 / 15 V, R_{Gon} = 2,4 Ω	t_r		0,044 0,052 0,053		µs µs µs
	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C					
关断延迟时间(电感负载) Turn-off delay time, inductive load	I_C = 150 A, V_{CE} = 350 V, V_{GE} = -15 / 15 V, R_{Goff} = 2,4 Ω	$t_{d\,off}$		0,31 0,39 0,40		µs µs µs
	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C					
下降时间(电感负载) Fall time, inductive load	I_C = 150 A, V_{CE} = 350 V, V_{GE} = -15 / 15 V, R_{Goff} = 2,4 Ω	t_f		0,04 0,10 0,12		µs µs µs
	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C					
开通损耗能量 (每脉冲) Turn-on energy loss per pulse	I_C = 150 A, V_{CE} = 350 V, Lσ = 35 nH, di/dt = 2900 A/µs (T_{vj} = 150°C), V_{GE} = -15 / 15 V, R_{Gon} = 2,4 Ω	E_{on}		3,00 4,90 5,30		mJ mJ mJ
	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C					
关断损耗能量 (每脉冲) Turn-off energy loss per pulse	I_C = 150 A, V_{CE} = 350 V, Lσ = 35 nH, du/dt = 2800 V/µs (T_{vj} = 150°C), V_{GE} = -15 / 15 V, R_{Goff} = 2,4 Ω	E_{off}		4,55 6,95 7,70		mJ mJ mJ
	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C					
短路数据 SC data	V_{GE} ≤ 15 V, V_{CC} = 800 V, V_{CEmax} = V_{CES} -L_{sCE} ·di/dt, t_P ≤ 10 µs, T_{vj} = 150°C	I_{SC}		720		A
结 - 外壳热阻 Thermal resistance, junction to case	每个 IGBT / per IGBT	R_{thJC}			0,162	K/W
外壳 - 散热器热阻 Thermal resistance, case to heatsink	每个 IGBT / per IGBT λ_{Paste} = 1 W/(m·K) / λ_{grease} = 1 W/(m·K)	R_{thCH}		0,111		K/W
在开关状态下温度 Temperature under switching conditions		$T_{vj\,op}$	-40		150	°C

二极管,逆变器 / Diode, Inverter

最大额定值 / Maximum Rated Values

反向重复峰值电压 Repetitive peak reverse voltage	T_{vj} = 25°C	V_{RRM}	1200	V
连续正向直流电流 Continuous DC forward current		I_F	100	A
正向重复峰值电流 Repetitive peak forward current	t_P = 1 ms	I_{FRM}	200	A
I2t-值 I²t - value	V_R = 0 V, t_P = 10 ms, T_{vj} = 125°C V_R = 0 V, t_P = 10 ms, T_{vj} = 150°C	I²t	1950 1850	A²s A²s

特征值 / Characteristic Values

			min.	typ.	max.	
正向电压 Forward voltage	I_F = 100 A, V_{GE} = 0 V I_F = 100 A, V_{GE} = 0 V I_F = 100 A, V_{GE} = 0 V	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	V_F		1,75 1,70 1,70	2,15	V V V
反向恢复峰值电流 Peak reverse recovery current	I_F = 100 A, - di_F/dt = 2600 A/µs (T_{vj}=150°C) V_R = 350 V V_{GE} = -15 V	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	I_{RM}		102 123 128		A A A
恢复电荷 Recovered charge	I_F = 100 A, - di_F/dt = 2600 A/µs (T_{vj}=150°C) V_R = 350 V V_{GE} = -15 V	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	Q_r		7,50 13,6 15,5		µC µC µC
反向恢复损耗（每脉冲） Reverse recovery energy	I_F = 100 A, - di_F/dt = 2600 A/µs (T_{vj}=150°C) V_R = 350 V V_{GE} = -15 V	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	E_{rec}		2,00 3,80 4,35		mJ mJ mJ
结 - 外壳热阻 Thermal resistance, junction to case	每个二极管 / per diode		R_{thJC}			0,491	K/W
外壳 - 散热器热阻 Thermal resistance, case to heatsink	每个二极管 / per diode λ_{Paste} = 1 W/(m·K) / λ_{grease} = 1 W/(m·K)		R_{thCH}		0,146		K/W
在开关状态下温度 Temperature under switching conditions			$T_{vj\,op}$	-40		150	°C

IGBT, 三电平 / IGBT,3-Level

最大额定值 / Maximum Rated Values

集电极 - 发射极电压 Collector-emitter voltage	T_{vj} = 25°C	V_{CES}	650	V
连续集电极直流电流 Continuous DC collector current	T_C = 50°C, $T_{vj\,max}$ = 175°C	I_{CDC}	150	A
集电极重复峰值电流 Repetitive peak collector current	t_P = 1 ms	I_{CRM}	300	A
栅极 - 发射极峰值电压 Gate-emitter peak voltage		V_{GES}	+/-20	V

特征值 / Characteristic Values

			min.	typ.	max.	
集电极 - 发射极饱和电压 Collector-emitter saturation voltage	I_C = 150 A, V_{GE} = 15 V	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	$V_{CE\,sat}$		1,45 1,60 1,70	1,90	V V V
栅极阈值电压 Gate threshold voltage	I_C = 2,40 mA, V_{CE} = V_{GE}, T_{vj} = 25°C		V_{GEth}	5,05	5,80	6,45	V
栅极电荷 Gate charge	V_{GE} = -15 / 15 V		Q_G		1,50		µC
内部栅极电阻 Internal gate resistor	T_{vj} = 25°C		R_{Gint}		2,0		Ω
输入电容 Input capacitance	f = 1000 kHz, T_{vj} = 25°C, V_{CE} = 25 V, V_{GE} = 0 V		C_{ies}		9,30		nF
反向传输电容 Reverse transfer capacitance	f = 1000 kHz, T_{vj} = 25°C, V_{CE} = 25 V, V_{GE} = 0 V		C_{res}		0,285		nF
集电极-发射极截止电流 Collector-emitter cut-off current	V_{CE} = 650 V, V_{GE} = 0 V, T_{vj} = 25°C		I_{CES}			1,0	mA
栅极-发射极漏电流 Gate-emitter leakage current	V_{CE} = 0 V, V_{GE} = 20 V, T_{vj} = 25°C		I_{GES}			100	nA
开通延迟时间(电感负载) Turn-on delay time, inductive load	I_C = 150 A, V_{CE} = 350 V V_{GE} = -15 / 15 V R_{Gon} = 3,3 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	$t_{d\,on}$		0,08 0,10 0,10		µs µs µs
上升时间(电感负载) Rise time, inductive load	I_C = 150 A, V_{CE} = 350 V V_{GE} = -15 / 15 V R_{Gon} = 3,3 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	t_r		0,051 0,057 0,062		µs µs µs
关断延迟时间(电感负载) Turn-off delay time, inductive load	I_C = 150 A, V_{CE} = 350 V V_{GE} = -15 / 15 V R_{Goff} = 3,3 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	$t_{d\,off}$		0,29 0,32 0,34		µs µs µs
下降时间(电感负载) Fall time, inductive load	I_C = 150 A, V_{CE} = 350 V V_{GE} = -15 / 15 V R_{Goff} = 3,3 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	t_f		0,07 0,12 0,14		µs µs µs
开通损耗能量 (每脉冲) Turn-on energy loss per pulse	I_C = 150 A, V_{CE} = 350 V, Lσ = 35 nH di/dt = 2800 A/µs (T_{vj} = 150°C) V_{GE} = -15 / 15 V, R_{Gon} = 3,3 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	E_{on}		7,20 9,45 10,0		mJ mJ mJ
关断损耗能量 (每脉冲) Turn-off energy loss per pulse	I_C = 150 A, V_{CE} = 350 V, Lσ = 35 nH du/dt = 4000 V/µs (T_{vj} = 150°C) V_{GE} = -15 / 15 V, R_{Goff} = 3,3 Ω	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	E_{off}		4,50 6,40 7,00		mJ mJ mJ
短路数据 SC data	V_{GE} ≤ 15 V, V_{CC} = 360 V V_{CEmax} = V_{CES} -L_{sCE} ·di/dt	t_P ≤ 6 µs, T_{vj} = 150°C	I_{SC}		750		A
结 - 外壳热阻 Thermal resistance, junction to case	每个 IGBT / per IGBT		R_{thJC}			0,349	K/W
外壳 - 散热器热阻 Thermal resistance, case to heatsink	每个 IGBT / per IGBT λ_{Paste} = 1 W/(m·K) / λ_{grease} = 1 W/(m·K)		R_{thCH}		0,138		K/W
在开关状态下温度 Temperature under switching conditions			$T_{vj\,op}$	-40		150	°C

二极管, 三电平 / Diode, 3-Level

最大额定值 / Maximum Rated Values

反向重复峰值电压 Repetitive peak reverse voltage	T_{vj} = 25°C	V_{RRM}	650	V
连续正向直流电流 Continuous DC forward current		I_F	150	A
正向重复峰值电流 Repetitive peak forward current	t_P = 1 ms	I_{FRM}	300	A
I2t-值 I²t - value	V_R = 0 V, t_P = 10 ms, T_{vj} = 125°C V_R = 0 V, t_P = 10 ms, T_{vj} = 150°C	I²t	1700 1650	A²s A²s

特征值 / Characteristic Values

			min.	typ.	max.	
正向电压 Forward voltage	I_F = 150 A, V_{GE} = 0 V I_F = 150 A, V_{GE} = 0 V I_F = 150 A, V_{GE} = 0 V	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	V_F		1,65 1,55 1,50	2,15	V V V
反向恢复峰值电流 Peak reverse recovery current	I_F = 150 A, - di_F/dt = 2900 A/µs (T_{vj}=150°C) V_R = 350 V V_{GE} = -15 V	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	I_{RM}		69,0 89,0 95,0		A A A
恢复电荷 Recovered charge	I_F = 150 A, - di_F/dt = 2900 A/µs (T_{vj}=150°C) V_R = 350 V V_{GE} = -15 V	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	Q_r		4,40 8,10 9,50		µC µC µC
反向恢复损耗（每脉冲） Reverse recovery energy	I_F = 150 A, - di_F/dt = 2900 A/µs (T_{vj}=150°C) V_R = 350 V V_{GE} = -15 V	T_{vj} = 25°C T_{vj} = 125°C T_{vj} = 150°C	E_{rec}		1,15 1,90 2,20		mJ mJ mJ
结 - 外壳热阻 Thermal resistance, junction to case	每个二极管 / per diode		R_{thJC}			0,645	K/W
外壳 - 散热器热阻 Thermal resistance, case to heatsink	每个二极管 / per diode λ_{Paste} = 1 W/(m·K) / λ_{grease} = 1 W/(m·K)		R_{thCH}		0,154		K/W
在开关状态下温度 Temperature under switching conditions			$T_{vj\,op}$	-40		150	°C

负温度系数热敏电阻 / NTC-Thermistor

特征值 / Characteristic Values

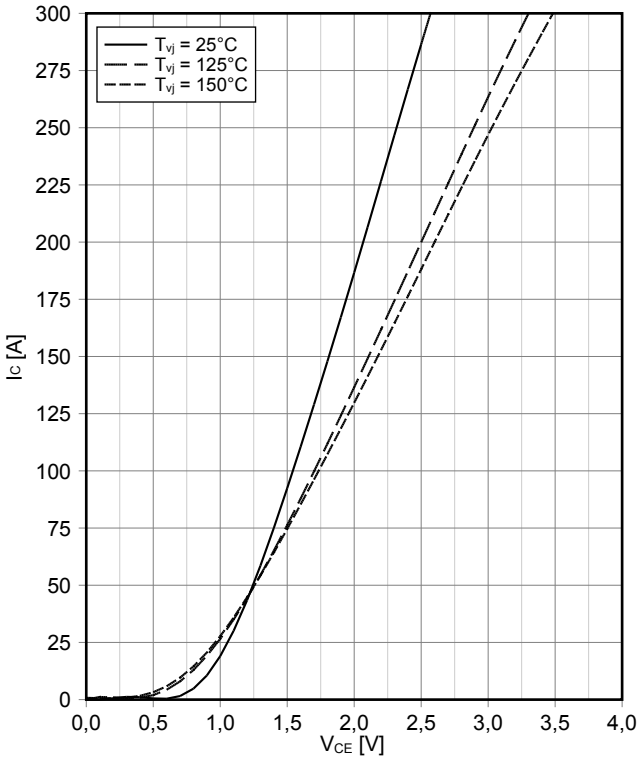
			min.	typ.	max.	
额定电阻值 Rated resistance	T_{NTC} = 25°C	R_{25}		5,00		kΩ
R100 偏差 Deviation of R100	T_{NTC} = 100°C, R_{100} = 493 Ω	ΔR/R	-5		5	%
耗散功率 Power dissipation	T_{NTC} = 25°C	P_{25}			20,0	mW
B-值 B-value	$R_2 = R_{25} \exp [B_{25/50}(1/T_2 - 1/(298,15\ K))]$	$B_{25/50}$		3375		K
B-值 B-value	$R_2 = R_{25} \exp [B_{25/80}(1/T_2 - 1/(298,15\ K))]$	$B_{25/80}$		3411		K
B-值 B-value	$R_2 = R_{25} \exp [B_{25/100}(1/T_2 - 1/(298,15\ K))]$	$B_{25/100}$		3433		K

根据应用手册标定
Specification according to the valid application note.

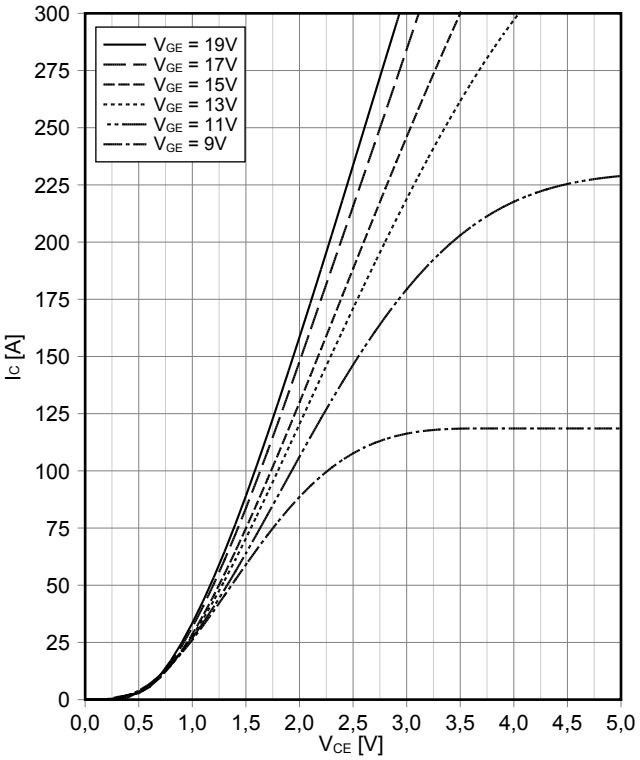
模块 / Module

绝缘测试电压 Isolation test voltage	RMS, f = 50 Hz, t = 1 min.	V_{ISOL}		2,5		kV
模块基板材料 Material of module baseplate				Cu		
内部绝缘 Internal isolation	基本绝缘 (class 1, IEC 61140) basic insulation (class 1, IEC 61140)			Al_2O_3		
爬电距离 Creepage distance	端子至散热器 / terminal to heatsink 端子至端子 / terminal to terminal			10,0		mm
电气间隙 Clearance	端子至散热器 / terminal to heatsink 端子至端子 / terminal to terminal			7,5		mm
相对电痕指数 Comperative tracking index		CTI		> 200		
			min.	typ.	max.	
杂散电感,模块 Stray inductance module		L_{sCE}		17		nH
模块引线电阻,端子-芯片 Module lead resistance, terminals - chip	T_C = 25°C, 每个开关 / per switch	$R_{CC'+EE'}$		2,50		mΩ
储存温度 Storage temperature		T_{stg}	-40		125	°C
模块安装的安装扭距 Mounting torque for modul mounting	螺丝 根据相应的应用手册进行安装 Screw - Mounting according to valid application note	M	3,00		6,00	Nm
重量 Weight		G		180		g

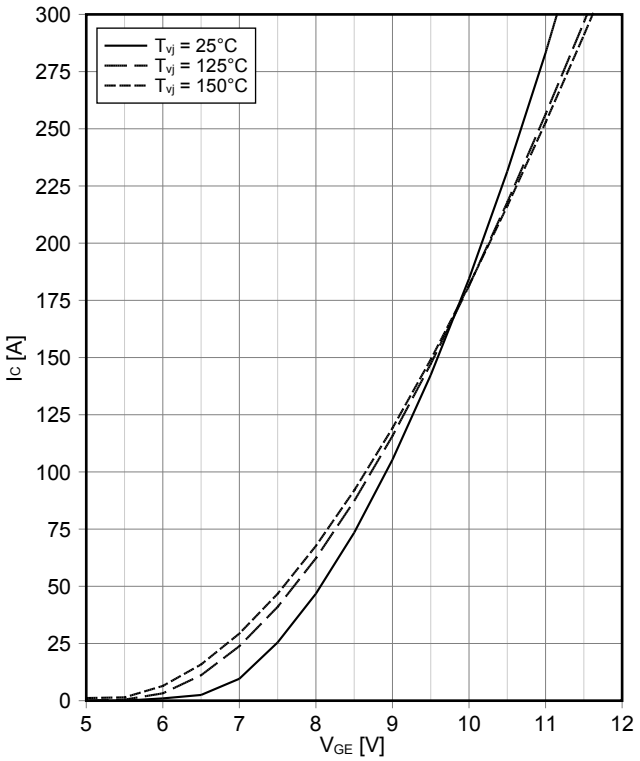
输出特性 IGBT, 逆变器 （典型)
output characteristic IGBT,Inverter (typical)
$I_C = f(V_{CE})$
V_{GE} = 15 V



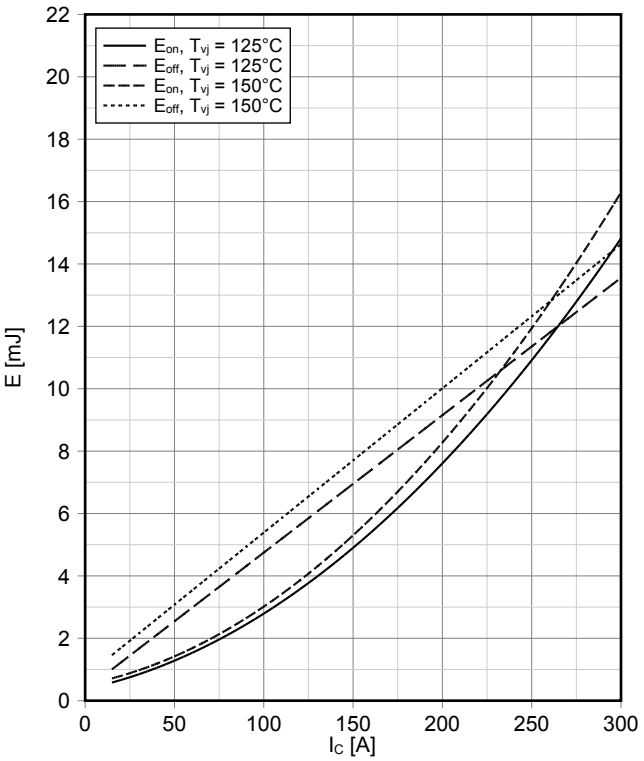
输出特性 IGBT, 逆变器 （典型)
output characteristic IGBT,Inverter (typical)
$I_C = f(V_{CE})$
T_{vj} = 150°C



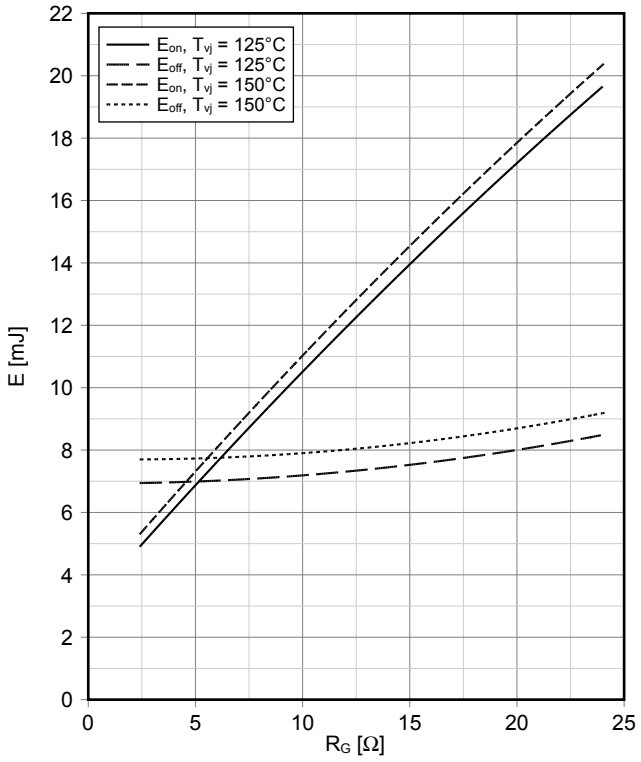
传输特性 IGBT, 逆变器 (典型)
transfer characteristic IGBT,Inverter (typical)
$I_C = f(V_{GE})$
V_{CE} = 20 V



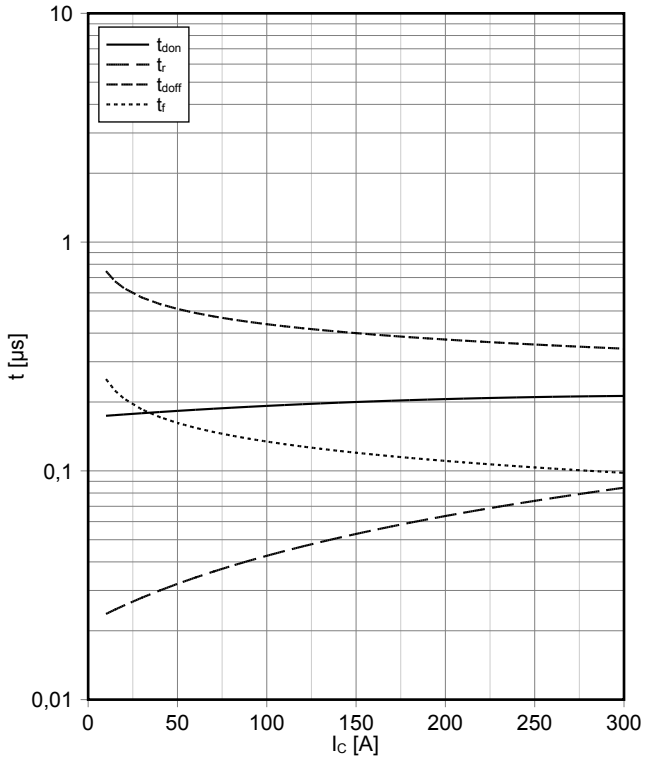
开关损耗 IGBT, 逆变器 （典型)
switching losses IGBT,Inverter (typical)
$E_{on} = f(I_C)$, $E_{off} = f(I_C)$
V_{GE} = ±15 V, R_{Gon} = 2.4 Ω, R_{Goff} = 2.4 Ω, V_{CE} = 350 V



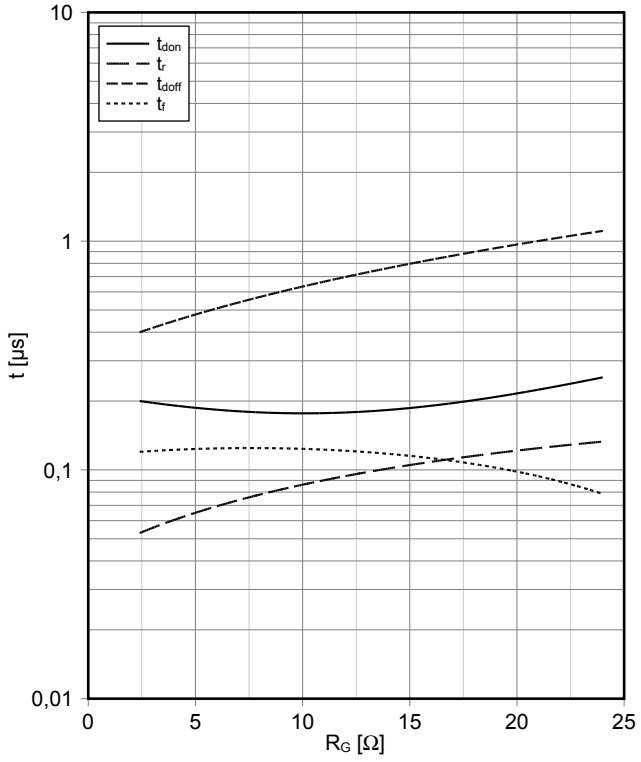
开关损耗 IGBT, 逆变器 （典型）
switching losses IGBT,Inverter (typical)
$E_{on} = f(R_G)$, $E_{off} = f(R_G)$
V_{GE} = ±15 V, I_C = 150 A, V_{CE} = 350 V



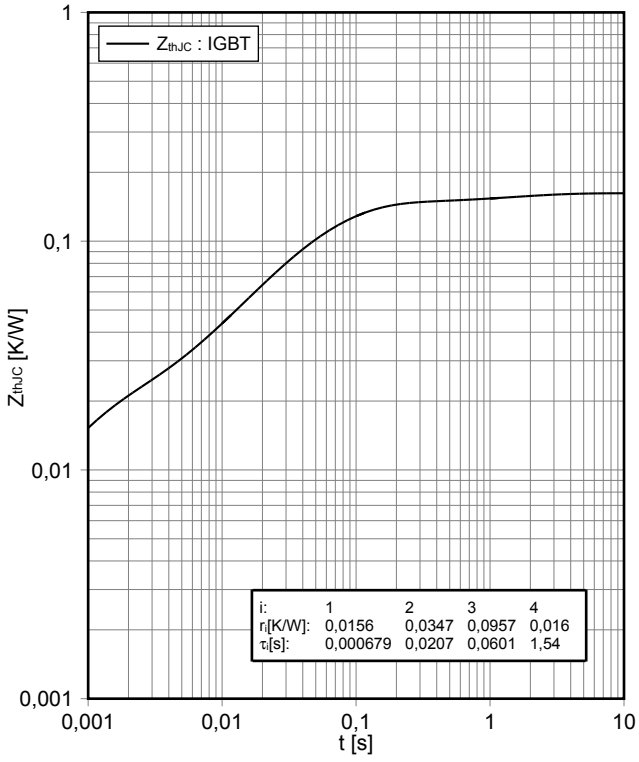
??? IGBT, 逆变器 （典型）
switching times IGBT,Inverter (typical)
$t_{don} = f(I_C)$, $t_r = f(I_C)$, $t_{doff} = f(I_C)$, $t_f = f(I_C)$
V_{GE} = ±15 V, R_{Gon} = 2.4 Ω, R_{Goff} = 2.4 Ω, V_{CE} = 350 V, Tvj = 150°C



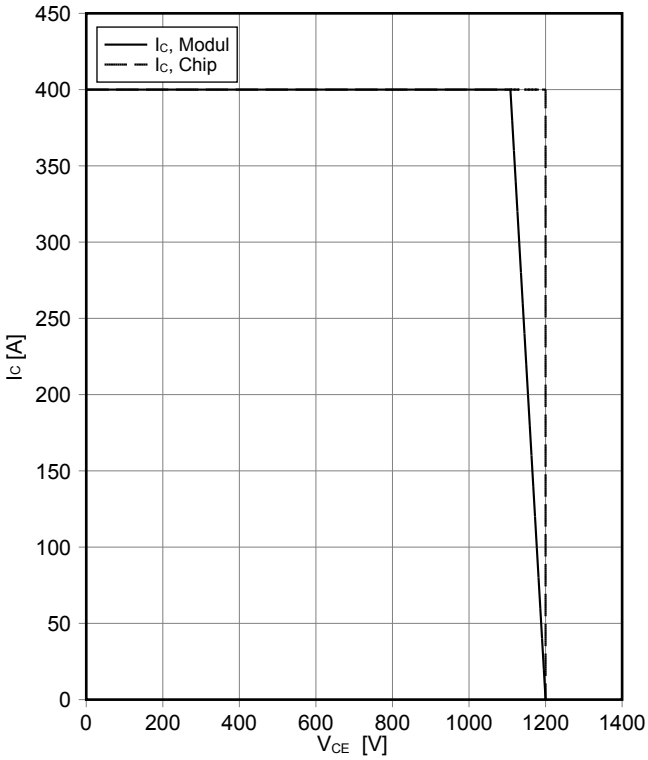
??? IGBT, 逆变器 （典型）
switching times IGBT,Inverter (typical)
$t_{don} = f(R_G)$, $t_r = f(R_G)$, $t_{doff} = f(R_G)$, $t_f = f(R_G)$
V_{GE} = ±15 V, I_C = 150 A, V_{CE} = 350 V, Tvj = 150°C



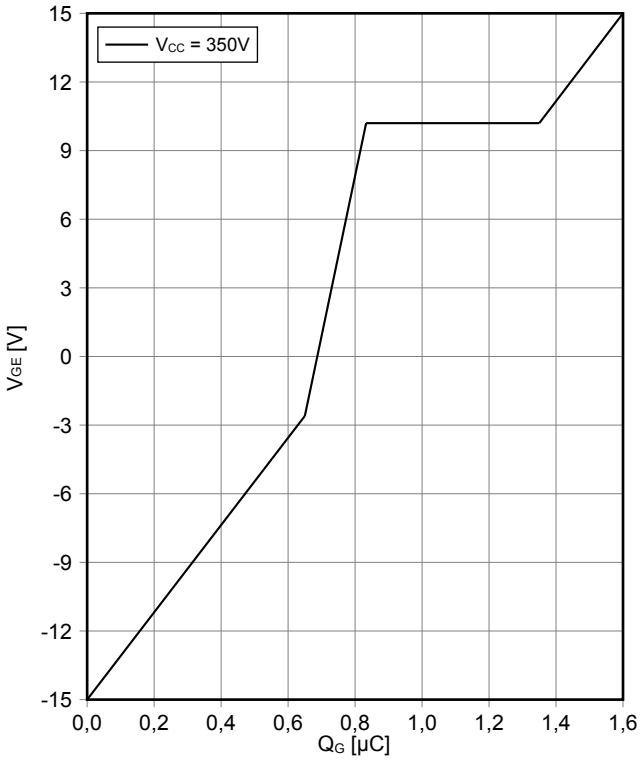
瞬态热阻抗 IGBT, 逆变器
transient thermal impedance IGBT,Inverter
$Z_{thJC} = f(t)$



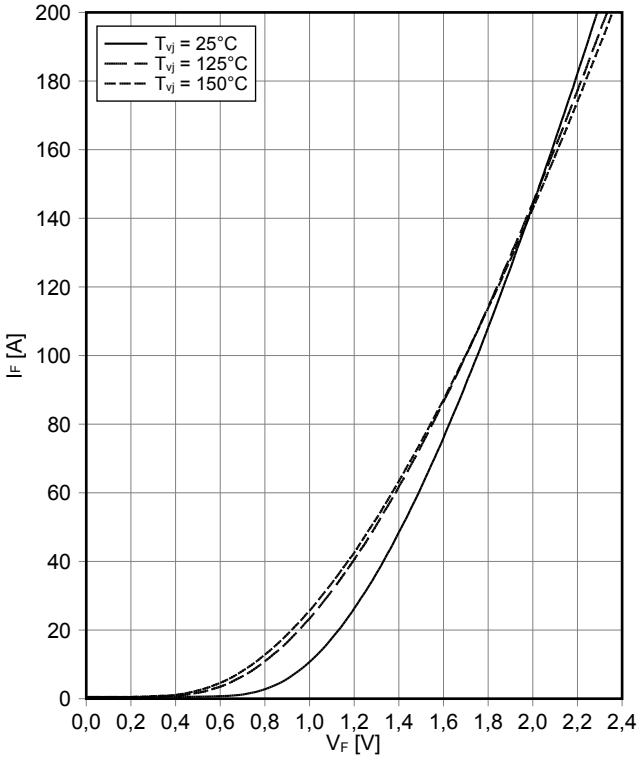
反偏安全工作区 IGBT, 逆变器 （ RBSOA ）
reverse bias safe operating area IGBT,Inverter (RBSOA)
$I_C = f(V_{CE})$
V_{GE} = ±15 V, R_{Goff} = 2.4 Ω, T_{vj} = 150°C



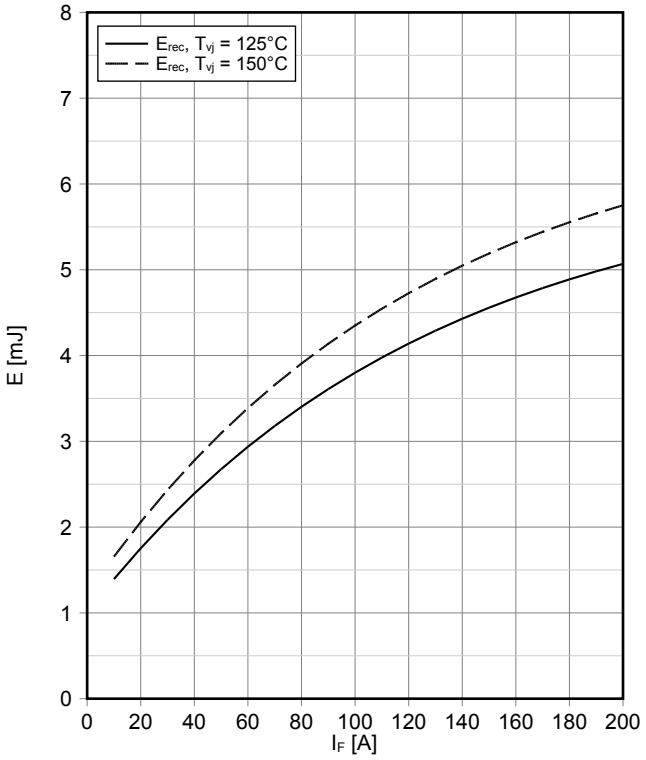
栅极电荷特性 IGBT, 逆变器 （ 典型)
gate charge characteristic IGBT,Inverter (typical)
$V_{GE} = f(Q_G)$
I_C = 150 A, T_{vj} = 25°C



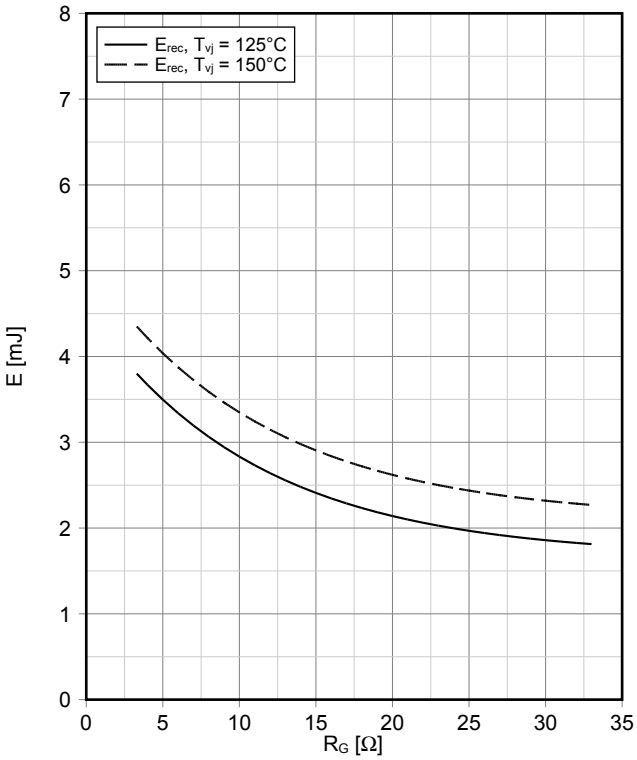
正向偏压特性 二极管,逆变器 （ 典型)
forward characteristic of Diode, Inverter (typical)
$I_F = f(V_F)$



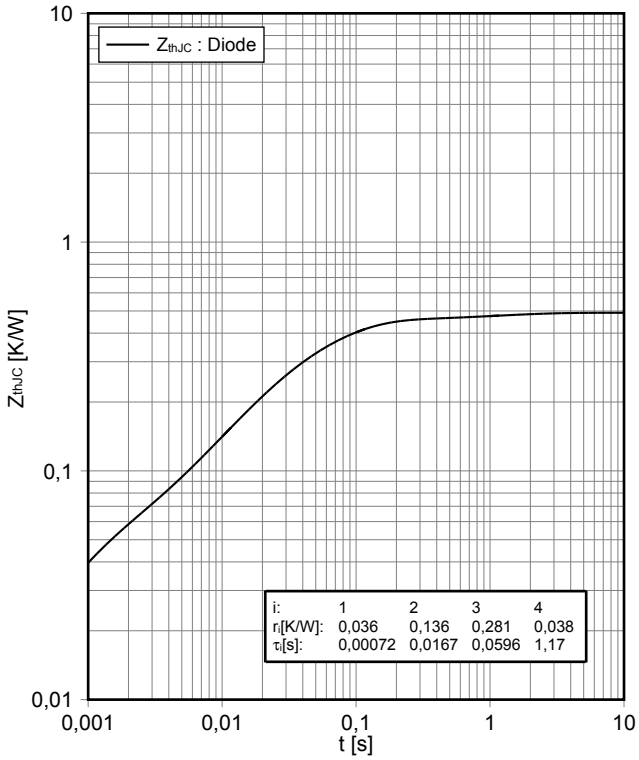
开关损耗 二极管,逆变器 （ 典型)
switching losses Diode, Inverter (typical)
$E_{rec} = f(I_F)$
R_{Gon} = 3.3 Ω, V_{CE} = 350 V



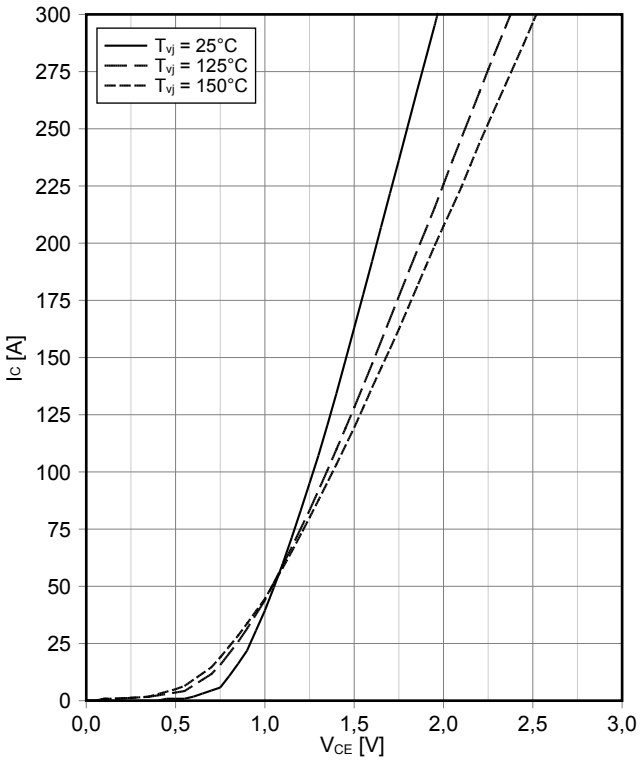
开关损耗 二极管,逆变器 （典型）
switching losses Diode, Inverter (typical)
$E_{rec} = f(R_G)$
$I_F = 100\ A,\ V_{CE} = 350\ V$



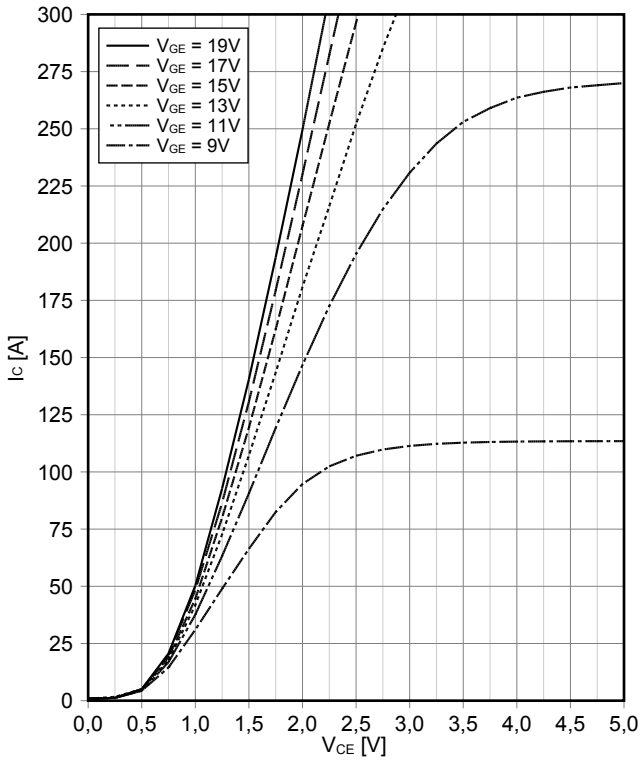
瞬态热阻抗 二极管,逆变器
transient thermal impedance Diode, Inverter
$Z_{thJC} = f(t)$



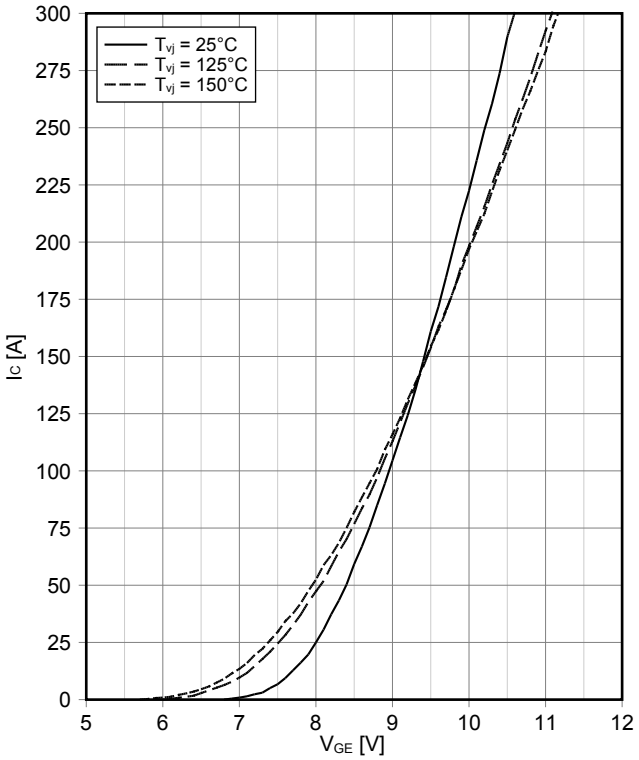
输出特性 IGBT, 三电平 （典型）
output characteristic IGBT,3-Level (typical)
$I_C = f(V_{CE})$
$V_{GE} = 15\ V$



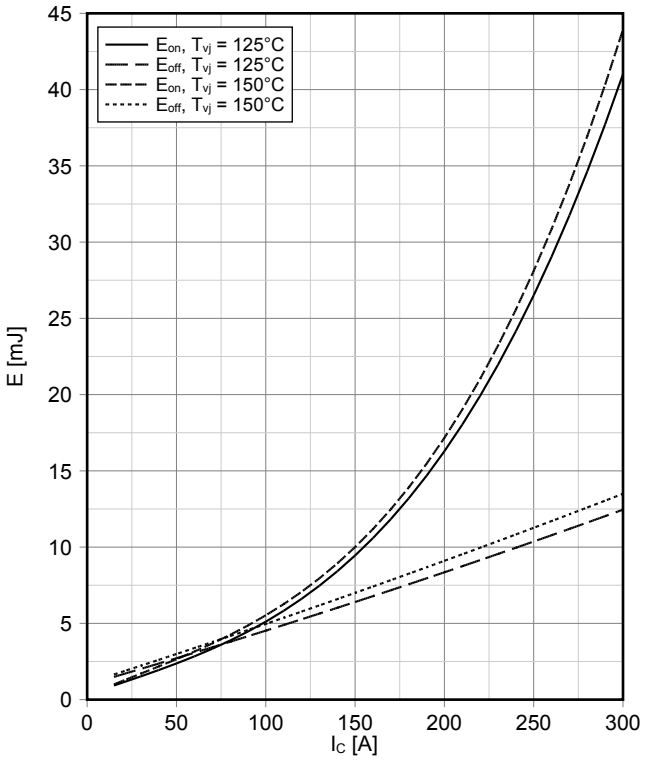
输出特性 IGBT, 三电平 （典型）
output characteristic IGBT,3-Level (typical)
$I_C = f(V_{CE})$
$T_{vj} = 150°C$



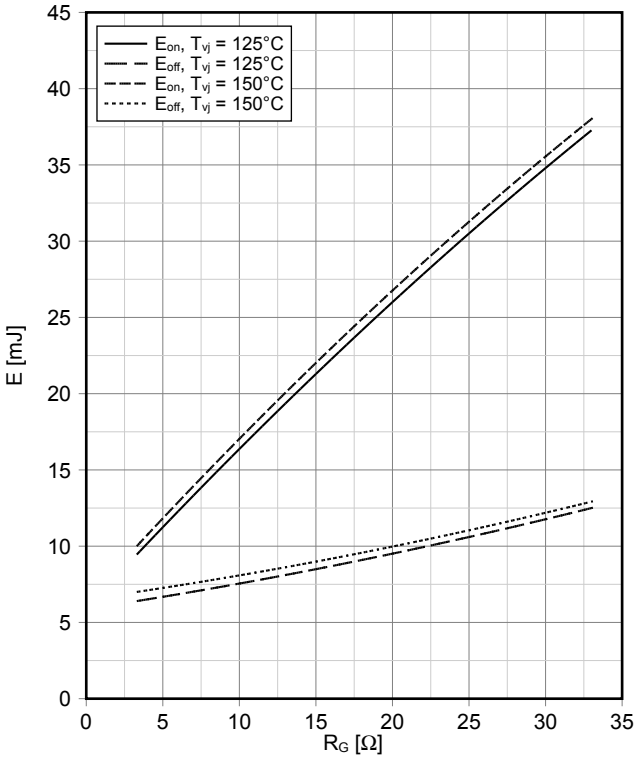
传输特性 IGBT, 三电平 (典型)
transfer characteristic IGBT,3-Level (typical)
$I_C = f(V_{GE})$
V_{CE} = 20 V



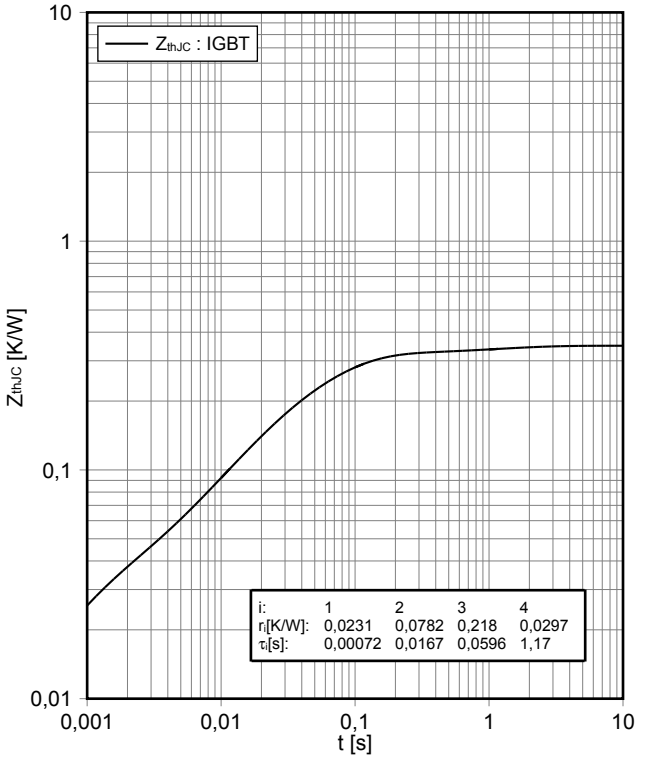
开关损耗 IGBT, 三电平 (典型)
switching losses IGBT,3-Level (typical)
$E_{on} = f(I_C)$, $E_{off} = f(I_C)$
V_{GE} = ±15 V, R_{Gon} = 3.3 Ω, R_{Goff} = 3.3 Ω, V_{CE} = 350 V



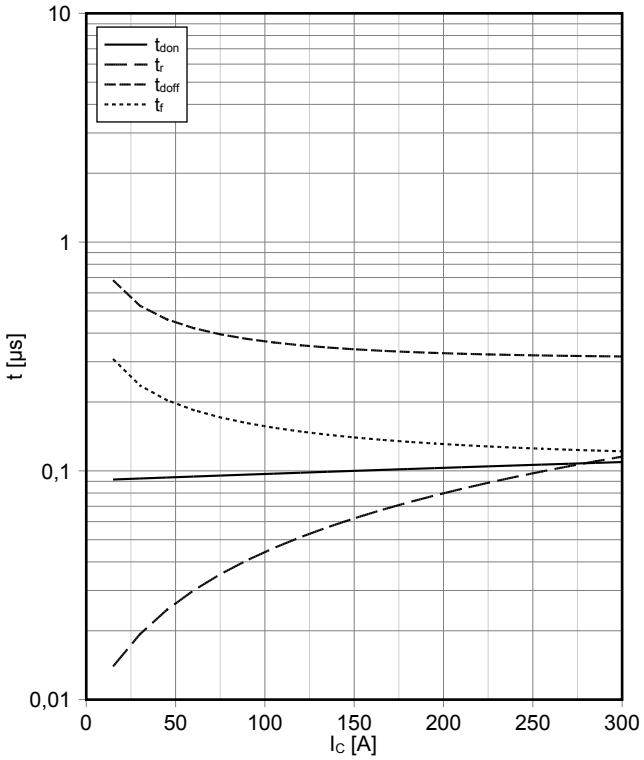
开关损耗 IGBT, 三电平 (典型)
switching losses IGBT,3-Level (typical)
$E_{on} = f(R_G)$, $E_{off} = f(R_G)$
V_{GE} = ±15 V, I_C = 150 A, V_{CE} = 350 V



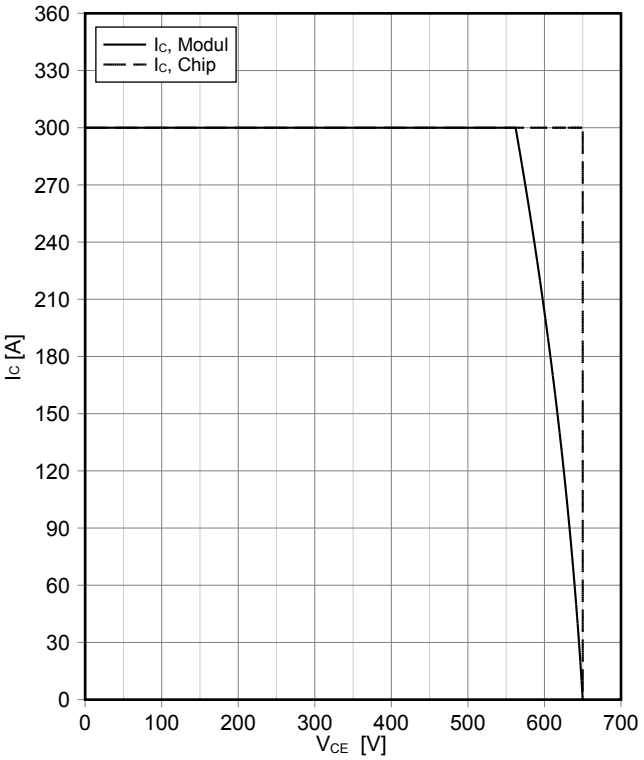
瞬态热阻抗 IGBT, 三电平
transient thermal impedance IGBT,3-Level
$Z_{thJC} = f(t)$



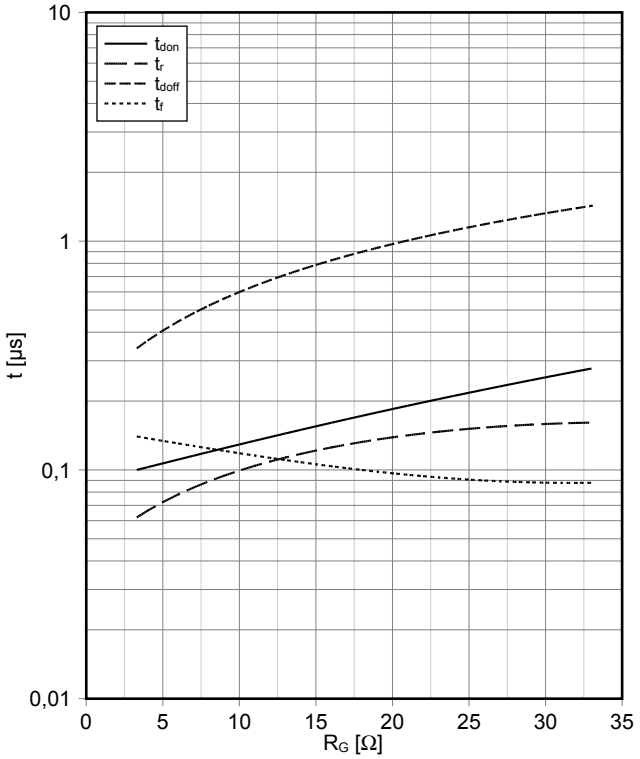
??? IGBT, 三电平 （典型）
switching times IGBT,3-Level (typical)
$t_{don} = f(I_C)$, $t_r = f(I_C)$, $t_{doff} = f(I_C)$, $t_f = f(I_C)$
V_{GE} = ±15 V, R_{Gon} = 3.3 Ω, R_{Goff} = 3.3 Ω, V_{CE} = 350 V, Tvj = 150°C



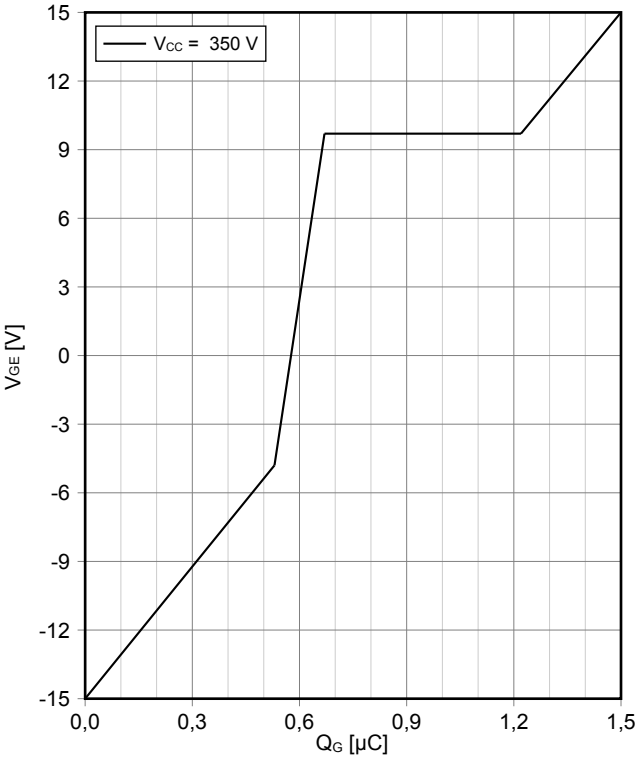
反偏安全工作区 IGBT, 三电平 （RBSOA）
reverse bias safe operating area IGBT,3-Level (RBSOA)
$I_C = f(V_{CE})$
V_{GE} = ±15 V, R_{Goff} = 3.3 Ω, T_{vj} = 150°C



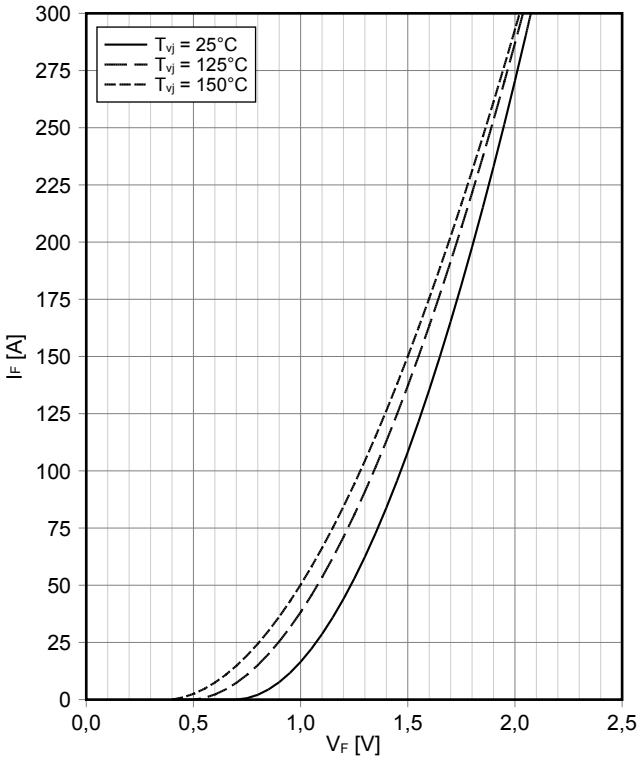
??? IGBT, 三电平 （典型）
switching times IGBT,3-Level (typical)
$t_{don} = f(R_G)$, $t_r = f(R_G)$, $t_{doff} = f(R_G)$, $t_f = f(R_G)$
V_{GE} = ±15 V, I_C = 150 A, V_{CE} = 350 V, Tvj = 150°C



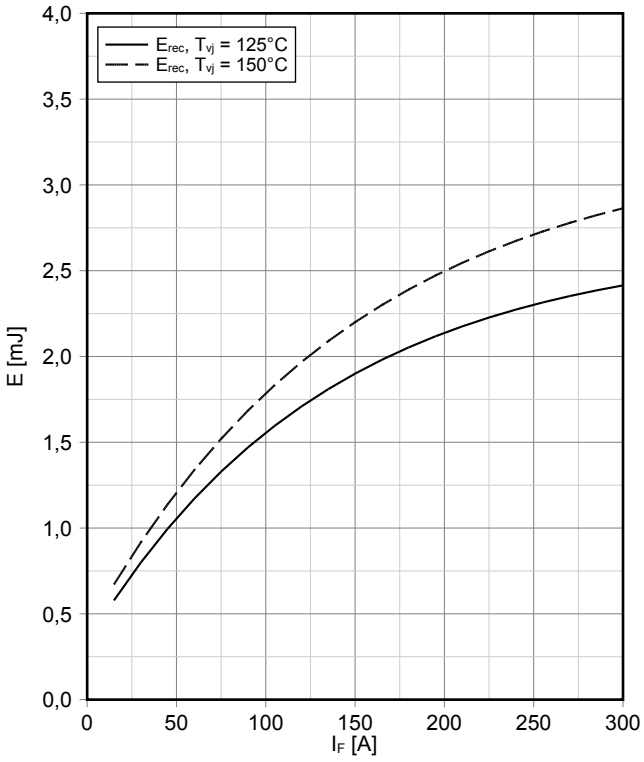
栅极电荷特性 IGBT, 三电平 （典型）
gate charge characteristic IGBT,3-Level (typical)
$V_{GE} = f(Q_G)$
I_C = 150 A, T_{vj} = 25°C



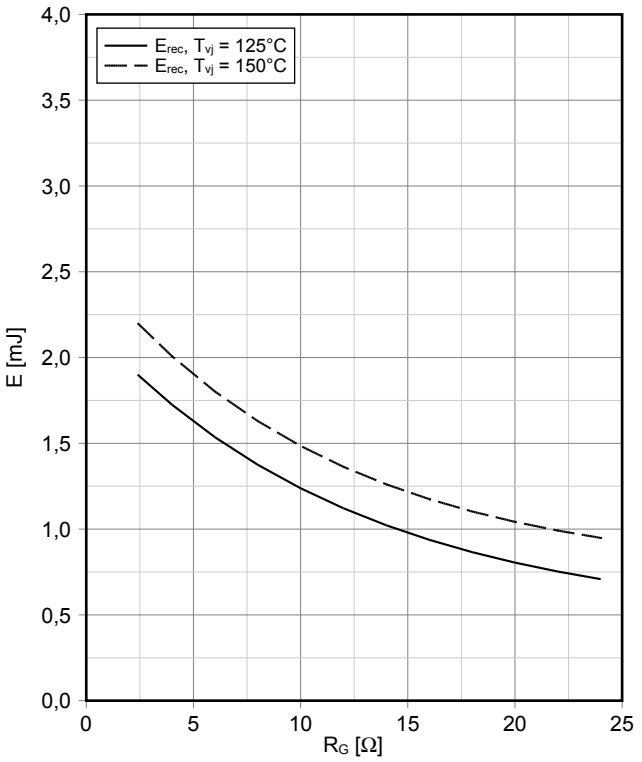
正向偏压特性 二极管, 三电平 （典型)
forward characteristic of Diode, 3-Level (typical)
$I_F = f(V_F)$



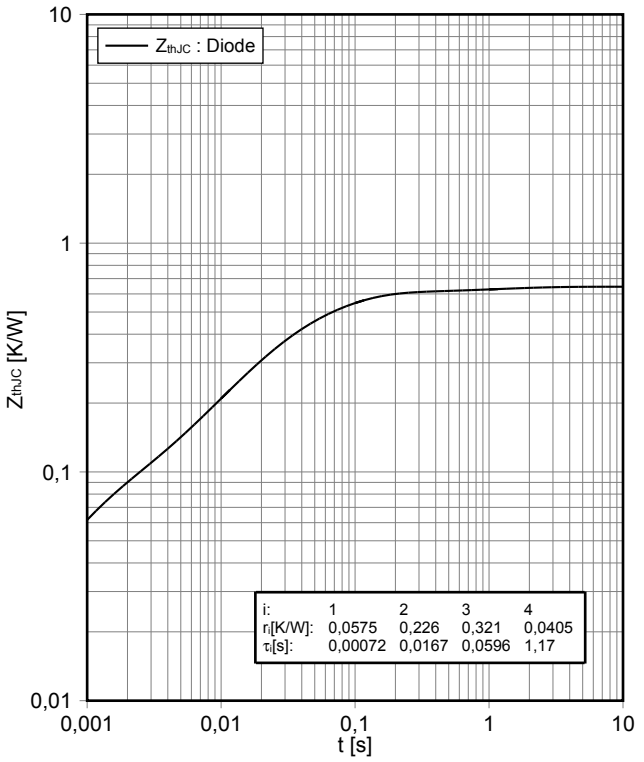
开关损耗 二极管, 三电平 （典型)
switching losses Diode, 3-Level (typical)
$E_{rec} = f(I_F)$
$R_{Gon} = 2.4\ \Omega$, $V_{CE} = 350$ V



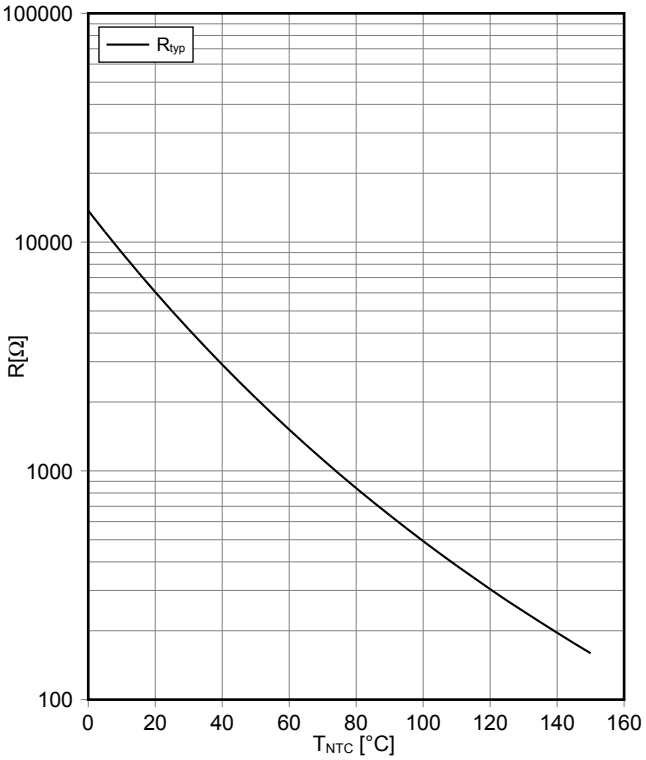
开关损耗 二极管, 三电平 （典型)
switching losses Diode, 3-Level (typical)
$E_{rec} = f(R_G)$
$I_F = 150$ A, $V_{CE} = 350$ V



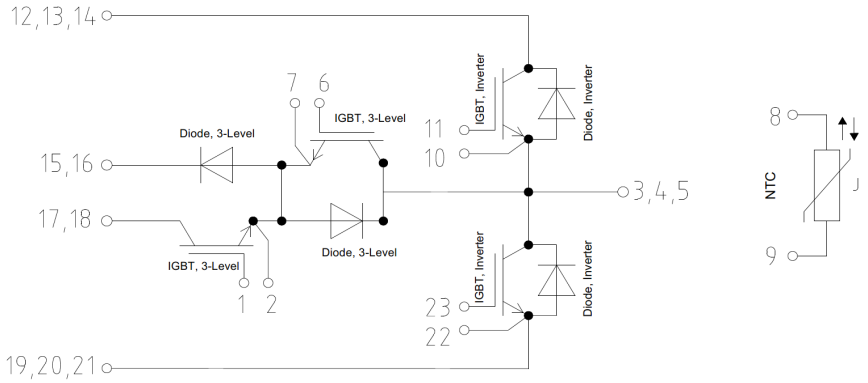
瞬态热阻抗 二极管, 三电平
transient thermal impedance Diode, 3-Level
$Z_{thJC} = f(t)$



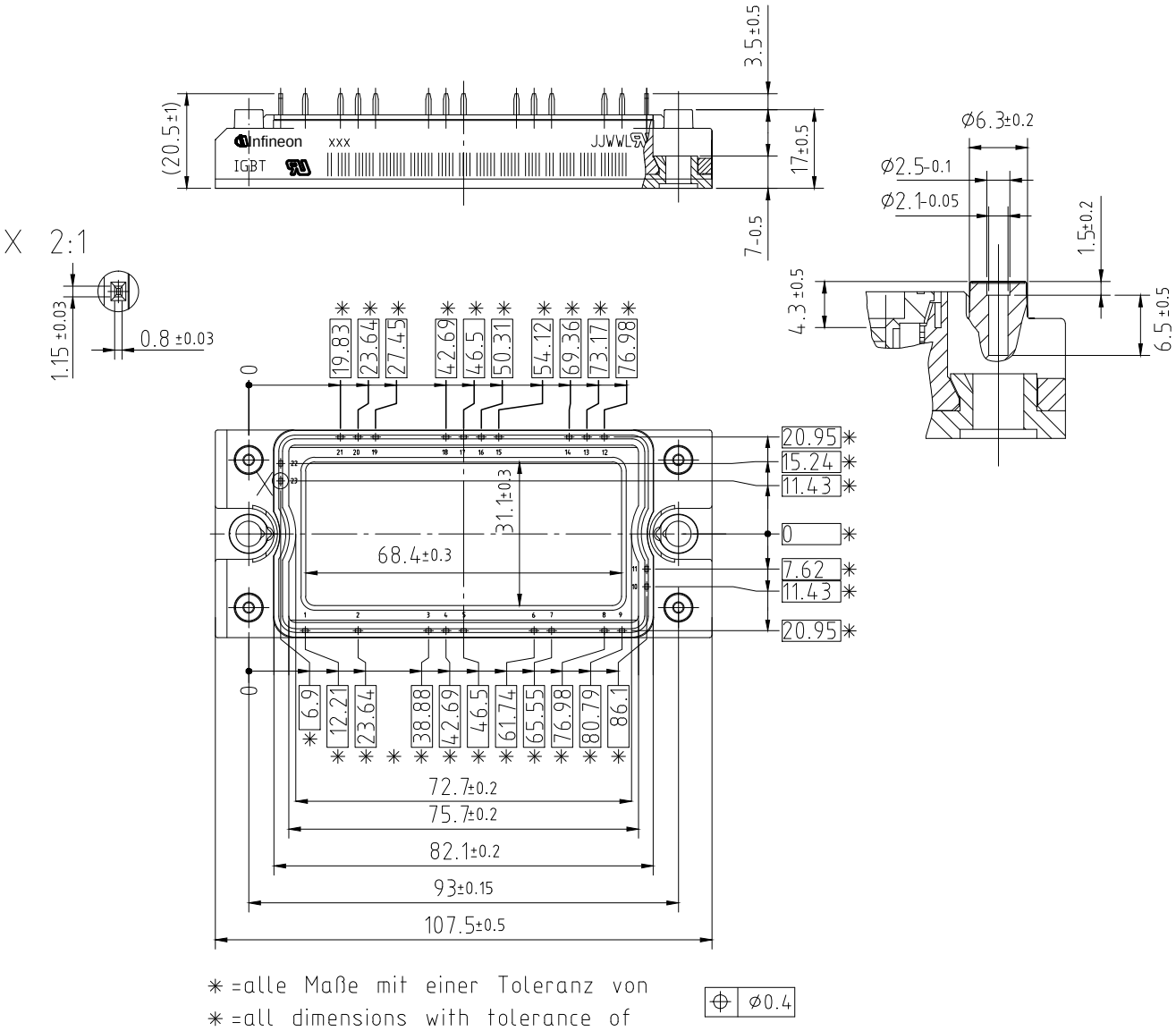
负温度系数热敏电阻 温度特性
NTC-Thermistor-temperature characteristic (typical)
R = f (T)



接线图 / Circuit diagram



封装尺寸 / Package outlines



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