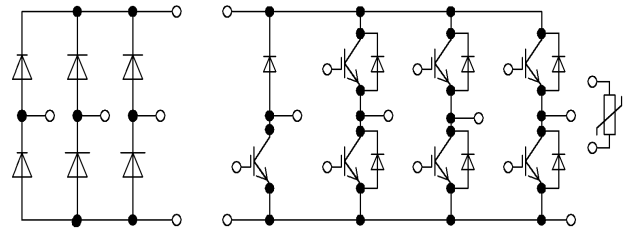


N2 package: 1200V 75A IGBT PIM module



等效电路图

Equivalent Circuit Schematic

### Features:

- 1200V 75A,  $V_{CE(sat)} = 1.45V @ 25^{\circ}C$
- Trench/FS Technology
- Low Losses
- High RBSOA capability
- Low reverse-recovery losses

### 产品特性:

- 1200V 75A,  $V_{CE(sat)} = 1.45V @ 25^{\circ}C$
- 沟槽栅/场终止技术
- 低损耗
- 高 RBSOA 能力
- 低反向恢复损耗

### Typical Applications:

- Motor Drives
- Servo Drives

### 典型应用:

- 电机驱动
- 伺服驱动

## IGBT, Inverter / IGBT , 逆变部分

### Maximum Rated Values / 最大标称数

Collector-emitter Voltage 集电极-发射极电压	$T_{vj}=25^{\circ}\text{C}$	$V_{CES}$	1200	V
Continuous DC collector current 集电极连续直流电流		$I_{C\text{ nom}}$	75	A
	$T_C=100^{\circ}\text{C}, T_{vj\text{ max}}=175^{\circ}\text{C}$	$I_C$	95	A
Repetitive Peak collector current 集电极可重复峰值电流	$I_{CRM}=2 \times I_{C\text{ nom}}$	$I_{CRM}$	150	A
Gate-emitter peak voltage 门极-发射极峰值电压		$V_{GES}$	$\pm 20$	V

### Characteristic Values / 性能参数

			min.	typ.	max.		
Collector-emitter saturation Voltage <sup>1)</sup> 集电极-发射极饱和压降	$I_C=75\text{A}, V_{GE}=15\text{V}$	$T_{vj}=25^{\circ}\text{C}$	$V_{CESat}$	1.45	1.80	V	
	$I_C=75\text{A}, V_{GE}=15\text{V}$	$T_{vj}=125^{\circ}\text{C}$		1.65			
	$I_C=75\text{A}, V_{GE}=15\text{V}$	$T_{vj}=175^{\circ}\text{C}$		1.72			
Gate Threshold Voltage 门极阈值电压	$V_{CE}=V_{GE}, I_C=1.5\text{mA},$	$T_{vj}=25^{\circ}\text{C}$	$V_{GEth}$	5.0	6.0	7.0	V
Gate Charge 门极电荷	$V_{GE}=-8\text{V}/15\text{V}, V_{CE}=600\text{V} T_{vj}=25^{\circ}\text{C}$		$Q_G$		0.67		$\mu\text{C}$
Internal Gate Resistor 内置门极电阻	$T_{vj}=25^{\circ}\text{C}$		$R_{Gint}$		1.65		$\Omega$
Input Capacitance 输入电容	$V_{CE}=25\text{V}, V_{GE}=0\text{V}$ $f=100\text{KHz}$		$C_{ies}$		16.5		nF
Reverse Transfer Capacitance 反向传输电容			$C_{res}$		0.05		nF
Collector-emitter Cutoff Current 集电极-发射极关断漏电流	$V_{CE}=1200\text{V}, V_{GE}=0\text{V},$	$T_{vj}=25^{\circ}\text{C}$	$I_{CES}$			200	$\mu\text{A}$
Gate-emitter Leakage Current 门极-发射极漏电流	$V_{CE}=0\text{V}, V_{GE}=20\text{V},$	$T_{vj}=25^{\circ}\text{C}$	$I_{GES}$			200	nA
Turn-on Delay Time, Inductive Load 开通延迟时间, 感性负载	$I_C=75\text{A}, V_{CE}=600\text{V}$ $V_{GE}=\pm 15\text{V}$ $R_{Gon}=5.0\Omega$	$T_{vj}=25^{\circ}\text{C}$	$t_{don}$		80	ns	
		$T_{vj}=125^{\circ}\text{C}$			85		
		$T_{vj}=175^{\circ}\text{C}$			85		
Rise Time, Inductive Load 上升时间, 感性负载	$I_C=75\text{A}, V_{CE}=600\text{V}$ $V_{GE}=\pm 15\text{V}$ $R_{Gon}=5.0\Omega$	$T_{vj}=25^{\circ}\text{C}$	$t_r$		30	ns	
		$T_{vj}=125^{\circ}\text{C}$			40		
		$T_{vj}=175^{\circ}\text{C}$			40		
Turn-off Delay Time, Inductive Load 关断延迟时间, 感性负载	$I_C=75\text{A}, V_{CE}=600\text{V}$ $V_{GE}=\pm 15\text{V}$ $R_{Goff}=5.0\Omega$	$T_{vj}=25^{\circ}\text{C}$	$t_{doff}$		220	ns	
		$T_{vj}=125^{\circ}\text{C}$			270		
		$T_{vj}=175^{\circ}\text{C}$			280		
Fall Time, Inductive Load 下降时间, 感性负载	$I_C=75\text{A}, V_{CE}=600\text{V}$ $V_{GE}=\pm 15\text{V}$ $R_{Goff}=5.0\Omega$	$T_{vj}=25^{\circ}\text{C}$	$t_f$		125	ns	
		$T_{vj}=125^{\circ}\text{C}$			190		
		$T_{vj}=175^{\circ}\text{C}$			220		
Turn-on energy loss per pulse 开通损耗	$I_C=75\text{A}, V_{CE}=600\text{V},$ $V_{GE}=\pm 15\text{V}$ $R_{Gon}=5.0\Omega, di/dt =$ $1400\text{ A}/\mu\text{s} (T_{vj}=175^{\circ}\text{C})$	$T_{vj}=25^{\circ}\text{C}$	$E_{on}$		4.85	mJ	
		$T_{vj}=125^{\circ}\text{C}$			6.55		
		$T_{vj}=175^{\circ}\text{C}$			7.70		
Turn-off energy loss per pulse 关断损耗	$I_C=75\text{A}, V_{CE}=600\text{V},$ $V_{GE}=\pm 15\text{V}$ $R_{Goff}=5.0\Omega, dv/dt =$ $6300\text{ V}/\mu\text{s} (T_{vj}=175^{\circ}\text{C})$	$T_{vj}=25^{\circ}\text{C}$	$E_{off}$		4.80	mJ	
		$T_{vj}=125^{\circ}\text{C}$			6.90		
		$T_{vj}=175^{\circ}\text{C}$			7.90		

SC Data 短路耐量	$V_{CE} = 800V$ , $V_{GE} = \pm 15V$	$t_p \leq 8\mu s$ , $T_{vj} = 150^\circ C$	$I_{sc}$		340		A
		$t_p \leq 7\mu s$ , $T_{vj} = 175^\circ C$			320		
Thermal Resistance, Junction to Case 结-壳热阻	Per IGBT/单个 IGBT		$R_{thJC}$		0.297		K/W
Temperature under switching conditions <sup>2)</sup> 工作温度			$T_{vj\ op}$	-40		175	$^\circ C$

### Diode, Inverter / 二极管, 逆变部分 Maximum Rated Values / 最大标称参数

Repetitive peak reverse voltage 可重复反向峰值电压	$T_{vj} = 25^\circ C$	$V_{RRM}$	1200	V
Continuous DC Forward Current 可连续正向直流电流		$I_{F\ nom}$	75	A
Repetitive Peak Forward Current 可重复正向峰值电流	$I_{FRM} = 2 \times I_{F\ nom}$	$I_{FRM}$	150	A

### Characteristic Values / 性能参数

			min.	typ.	max.		
Forward Voltage <sup>1)</sup> 正向通态压降	$I_F = 75A$ , $V_{GE} = 0V$ $I_F = 75A$ , $V_{GE} = 0V$ $I_F = 75A$ , $V_{GE} = 0V$	$T_{vj} = 25^\circ C$ $T_{vj} = 125^\circ C$ $T_{vj} = 175^\circ C$	$V_F$	1.86 2.03 2.04	2.60		V
Peak Reverse Recovery Current 反向恢复峰值电流	$I_F = 75A$ , $V_R = 600V$ $-di_F/dt = 1100A/\mu s$ ( $T_{vj} = 175^\circ C$ ), $V_{GE} = -15V$	$T_{vj} = 25^\circ C$ $T_{vj} = 125^\circ C$ $T_{vj} = 175^\circ C$	$I_{RM}$	60 70 75			A
Recovery Charge 反向恢复电荷	$I_F = 75A$ , $V_R = 600V$ $-di_F/dt = 1100A/\mu s$ ( $T_{vj} = 175^\circ C$ ), $V_{GE} = -15V$	$T_{vj} = 25^\circ C$ $T_{vj} = 125^\circ C$ $T_{vj} = 175^\circ C$	$Q_R$	3.30 6.50 8.20			$\mu C$
Reverse Recovery Energy 反向恢复损耗	$I_F = 75A$ , $V_R = 600V$ $-di_F/dt = 1100A/\mu s$ ( $T_{vj} = 175^\circ C$ ), $V_{GE} = -15V$	$T_{vj} = 25^\circ C$ $T_{vj} = 125^\circ C$ $T_{vj} = 175^\circ C$	$E_{rec}$	1.20 2.90 3.90			mJ
Thermal Resistance, Junction to Case 结-壳热阻	Per Diode / 单个 Diode		$R_{thJC}$	0.487			K/W
Temperature under switching conditions <sup>2)</sup> 工作温度			$T_{vj\ op}$	-40		175	$^\circ C$

**Diode, Rectifier / 二极管，整流部分**
**Maximum Rated Values / 最大标称参数**

Repetitive peak reverse voltage 可重复反向峰值电压	$T_{vj}=25^{\circ}\text{C}$	$V_{RRM}$	1800	V
Maximum RMS Forward Current Per Chip 单芯片最大正向电流有效值		$I_{FRMSM}$	75	A
Surge Forward Current 正向浪涌电流	$t_p=10\text{ms}, \sin 180^{\circ}, T_{vj}=25^{\circ}\text{C}$	$I_{FSM}$	600	A
$I^2t$ Value $I^2t$ 值	$t_p=10\text{ms}, \sin 180^{\circ}, T_{vj}=25^{\circ}\text{C}$	$I^2t$	1800	$\text{A}^2\text{s}$

**Characteristic Values / 性能参数**

			min.	typ.	max.	
Forward Voltage 正向通态压降	$I_F=75\text{A}, T_{vj}=25^{\circ}\text{C}$ $I_F=75\text{A}, T_{vj}=150^{\circ}\text{C}$	$V_F$		1.25 1.20		V
Reverse Current 反向漏电流	$V_{RRM}=1800\text{V}, T_{vj}=25^{\circ}\text{C}$	$I_{RM}$			200	$\mu\text{A}$
Thermal Resistance, Junction to Case 结-壳热阻		$R_{thJC}$		0.413		K/W
Temperature under switching conditions <sup>2)</sup> 工作温度		$T_{vj\text{op}}$	-40		175	$^{\circ}\text{C}$

**IGBT, Brake-Choppe / IGBT，制动-斩波器**
**Maximum Rated Values / 最大标称参数**

Collector-emitter Voltage 集电极-发射极电压	$T_{vj}=25^{\circ}\text{C}$	$V_{CES}$	1200	V
Continuous DC collector current 集电极连续直流电流		$I_{c\text{nom}}$	75	A
	$T_C=100^{\circ}\text{C}, T_{vj\text{max}}=175^{\circ}\text{C}$	$I_c$	95	A
Repetitive Peak collector current 集电极可重复峰值电流	$I_{CRM}=2 \times I_{c\text{nom}}$	$I_{CRM}$	150	A
Gate-emitter peak voltage 门极-发射极峰值电压		$V_{GES}$	$\pm 20$	V

**Characteristic Values / 性能参数**

			min.	typ.	max.	
Collector-emitter saturation Voltage <sup>1)</sup> 集电极-发射极饱和压降	$I_c=75\text{A}, V_{GE}=15\text{V}, T_{vj}=25^{\circ}\text{C}$ $I_c=75\text{A}, V_{GE}=15\text{V}, T_{vj}=125^{\circ}\text{C}$ $I_c=75\text{A}, V_{GE}=15\text{V}, T_{vj}=175^{\circ}\text{C}$	$V_{CEsat}$		1.45 1.65 1.72	1.80	V
Gate Threshold Voltage 门极阈值电压	$V_{CE}=V_{GE}, I_c=1.5\text{mA}, T_{vj}=25^{\circ}\text{C}$	$V_{GEth}$	5.0	6.0	7.0	V
Gate Charge 门极电荷	$V_{GE}=-8\text{V}/15\text{V}, V_{CE}=600\text{V}, T_{vj}=25^{\circ}\text{C}$	$Q_G$		0.67		$\mu\text{C}$
Internal Gate Resistor 内置门极电阻	$T_{vj}=25^{\circ}\text{C}$	$R_{Gint}$		1.65		$\Omega$

Input Capacitance 输入电容	$V_{CE} = 25V, V_{GE} = 0V$ $f = 100KHz$	$C_{ies}$	16.5	nF
Reverse Transfer Capacitance 反向传输电容		$C_{res}$	0.05	nF
Collector-emitter Cutoff Current 集电极-发射极关断漏电流	$V_{CE}=1200V, V_{GE}=0V,$ $T_{vj}=25^{\circ}C$	$I_{CES}$	200	$\mu A$
Gate-emitter Leakage Current 门极-发射极漏电流	$V_{CE}=0V, V_{GE}=20V,$ $T_{vj}=25^{\circ}C$	$I_{GES}$	200	nA
Turn-on Delay Time, Inductive Load 开通延迟时间, 感性负载	$I_C=75A, V_{CE}=600V$ $V_{GE}=\pm 15V$ $R_{Gon}=5.0\Omega$	$T_{vj}=25^{\circ}C$ $T_{vj}=125^{\circ}C$ $T_{vj}=175^{\circ}C$	$t_{don}$	80 85 85 ns
Rise Time, Inductive Load 上升时间, 感性负载	$I_C=75A, V_{CE}=600V$ $V_{GE}=\pm 15V$ $R_{Gon}=5.0\Omega$	$T_{vj}=25^{\circ}C$ $T_{vj}=125^{\circ}C$ $T_{vj}=175^{\circ}C$	$t_r$	30 40 40 ns
Turn-off Delay Time, Inductive Load 关断延迟时间, 感性负载	$I_C=75A, V_{CE}=600V$ $V_{GE}=\pm 15V$ $R_{Goff}=5.0\Omega$	$T_{vj}=25^{\circ}C$ $T_{vj}=125^{\circ}C$ $T_{vj}=175^{\circ}C$	$t_{doff}$	220 270 280 ns
Fall Time, Inductive Load 下降时间, 感性负载	$I_C=75A, V_{CE}=600V$ $V_{GE}=\pm 15V$ $R_{Goff}=5.0\Omega$	$T_{vj}=25^{\circ}C$ $T_{vj}=125^{\circ}C$ $T_{vj}=175^{\circ}C$	$t_f$	125 190 220 ns
Turn-on energy loss per pulse 开通损耗	$I_C=75A, V_{CE}=600V,$ $V_{GE}=\pm 15V$ $R_{Gon}=5.0\Omega, di/dt =$ $1400 A/\mu s (T_{vj}=175^{\circ}C)$	$T_{vj}=25^{\circ}C$ $T_{vj}=125^{\circ}C$ $T_{vj}=175^{\circ}C$	$E_{on}$	4.85 6.55 7.70 mJ
Turn-off energy loss per pulse 关断损耗	$I_C=75A, V_{CE}=600V,$ $V_{GE}=\pm 15V$ $R_{Goff}=5.0\Omega, dv/dt =$ $6300 V/\mu s (T_{vj}=175^{\circ}C)$	$T_{vj}=25^{\circ}C$ $T_{vj}=125^{\circ}C$ $T_{vj}=175^{\circ}C$	$E_{off}$	4.80 6.90 7.90 mJ
SC Data 短路耐量	$V_{CE}=800V,$ $V_{GE} = \pm 15V$	$t_p \leq 8\mu s, T_{vj}=150^{\circ}C$ $t_p \leq 7\mu s, T_{vj}=175^{\circ}C$	$I_{sc}$	340 320 A
Thermal Resistance, Junction to Case 结-壳热阻	Per IGBT/单个IGBT		$R_{thJC}$	0.297 K/W
Temperature under switching conditions <sup>2)</sup> 工作温度			$T_{vj op}$	-40 175 $^{\circ}C$

## Diode, Brake-Chopper / 二极管, 制动-斩波器

### Maximum Rated Values / 最大标称参数

Repetitive peak reverse voltage 可重复反向峰值电压	$T_{vj}=25^{\circ}C$	$V_{RRM}$	1200	V
Continuous DC Forward Current 可连续正向直流电流		$I_{F nom}$	75	A
Repetitive Peak Forward Current 可重复正向峰值电流	$I_{FRM}=2 \times I_{F nom}$	$I_{FRM}$	150	A

**Characteristic Values / 性能参数**

			min.	typ.	max.	
Forward Voltage <sup>1)</sup> 正向通态压降	$I_F=75A, V_{GE}=0V$ $I_F=75A, V_{GE}=0V$ $I_F=75A, V_{GE}=0V$	$T_{vj}=25^{\circ}C$ $T_{vj}=125^{\circ}C$ $T_{vj}=175^{\circ}C$	$V_F$	1.86 2.03 2.04	2.60	V
Peak Reverse Recovery Current 反向恢复峰值电流	$I_F=75A, V_R=600V$ $-di_F/dt=1100A/us(T_{vj}=175^{\circ}C), T_{vj}=125^{\circ}C$ $V_{GE}=-15V$	$T_{vj}=25^{\circ}C$ $T_{vj}=175^{\circ}C$	$I_{RM}$	60 70 75		A
Recovery Charge 反向恢复电荷	$I_F=75A, V_R=600V$ $-di_F/dt=1100A/us(T_{vj}=175^{\circ}C), T_{vj}=125^{\circ}C$ $V_{GE}=-15V$	$T_{vj}=25^{\circ}C$ $T_{vj}=175^{\circ}C$	$Q_R$	3.30 6.50 8.20		$\mu C$
Reverse Recovery Energy 反向恢复损耗	$I_F=75A, V_R=600V$ $-di_F/dt=1100A/us(T_{vj}=175^{\circ}C), T_{vj}=125^{\circ}C$ $V_{GE}=-15V$	$T_{vj}=25^{\circ}C$ $T_{vj}=175^{\circ}C$	$E_{rec}$	1.20 2.90 3.90		mJ
Thermal Resistance, Junction to Case 结-壳热阻	Per Diode / 单个 Diode		$R_{thJC}$	0.487		K/W
Temperature under switching conditions <sup>2)</sup> 工作温度			$T_{vj op}$	-40	175	$^{\circ}C$

**NTC-Thermistor/ NTC-热敏电阻**
**Characteristic Values / 性能参数**

			min.	typ.	max.	
Rated Resistance 标称电阻	$T_{NTC}=25^{\circ}C$	$R_{25}$		5		K $\Omega$
Deviation of R100 R100 偏移值	$T_{NTC}=100^{\circ}C, R_{100}=465\Omega$	$\Delta R/R$	-7.3		7.3	%
Power Dissipation 功率耗散	$T_{NTC}=25^{\circ}C$	$P_{25}$			10	mW
B-Value B 值	$R_2=R_{25} \exp[B_{25/50}(1/T_2-1/(298.15K))]$	$B_{25/50}$		3380		K
	$R_2=R_{25} \exp[B_{25/80}(1/T_2-1/(298.15K))]$	$B_{25/80}$		3470		
	$R_2=R_{25} \exp[B_{25/100}(1/T_2-1/(298.15K))]$	$B_{25/100}$		3520		

**Module / 模块**

Isolation Test Voltage 绝缘测试电压	RMS, f=50Hz, t=1min	$V_{ISOL}$		3.0		KV
Material of Module Baseplate 模块底板材料				Cu		
Internal Isolation 内部绝缘	基本绝缘 (class 1, IEC 61140) Basic insulation (class1, IEC 61140)			$Al_2O_3$		
Creepage Distance 爬电距离	端子-散热片 terminal to heatsink 端子-端子 terminal to terminal			10.0		mm
Clearance 电气间隙	端子-散热片 terminal to heatsink 端子-端子 terminal to terminal			7.5		mm
Comparative Tracking Index 相对漏电起痕指数		CTI		>200		

			min.	typ.	max.	
Stray Inductance Module 模块杂散电感		$L_{sCE}$		34		nH
Module lead resistance 模块引脚电阻	$T_C = 25^\circ\text{C}$ , 每个开关 per switch	$R_{AA'+CC}$		5.6		m $\Omega$
Module lead resistance 模块引脚电阻	$T_C = 25^\circ\text{C}$ , 每个开关 per switch	$R_{CC'+EE}$		5.3		m $\Omega$
Storage Temperature 贮存温度		$T_{stg}$	-40		125	$^\circ\text{C}$
Modul Mounting torque 模块安装扭距	M5	M	4.0		6.0	Nm
Weight 重量		G		180		g

注：1) Terminal impedance is not included.

不包含端子阻抗。

2)  $T_{vj\ op} > 150^\circ\text{C}$  is only allowed for operation at overload conditions

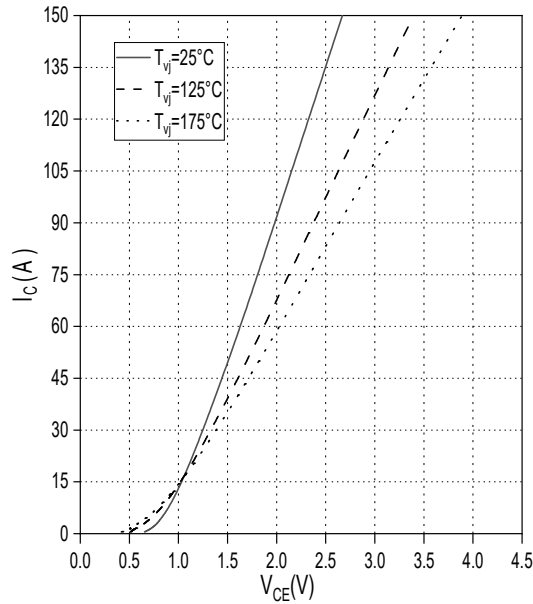
$T_{vj\ op} > 150^\circ\text{C}$  仅允许在过载条件下运行。

输出特性 IGBT, 逆变器(典型值)

Output characteristic IGBT Inverter (typical)

$I_C = f(V_{CE})$ ,

$V_{GE} = 15V$

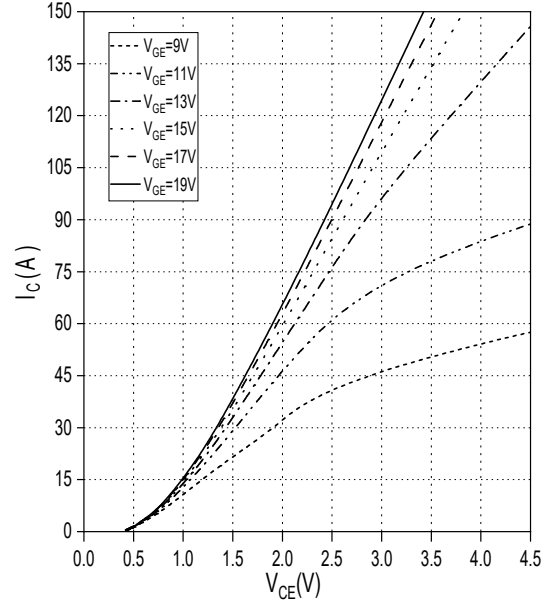


输出特性 IGBT, 逆变器(典型值)

Output characteristic IGBT Inverter (typical)

$I_C = f(V_{CE})$ ,

$T_{vj} = 175^\circ C$

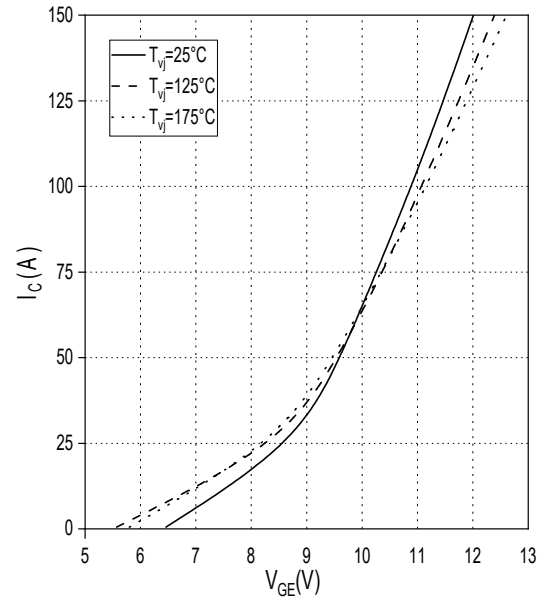


传输特性 IGBT, 逆变器 (典型值)

Transfer characteristic IGBT, Inverter (typical)

$I_C = f(V_{GE})$ ,

$V_{CE} = 20V$

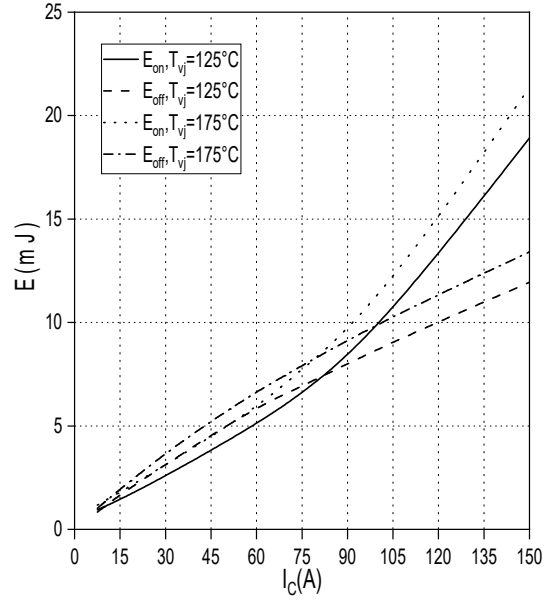


开关损耗 IGBT, 逆变器 (典型值)

switching losses IGBT, Inverter (typical)

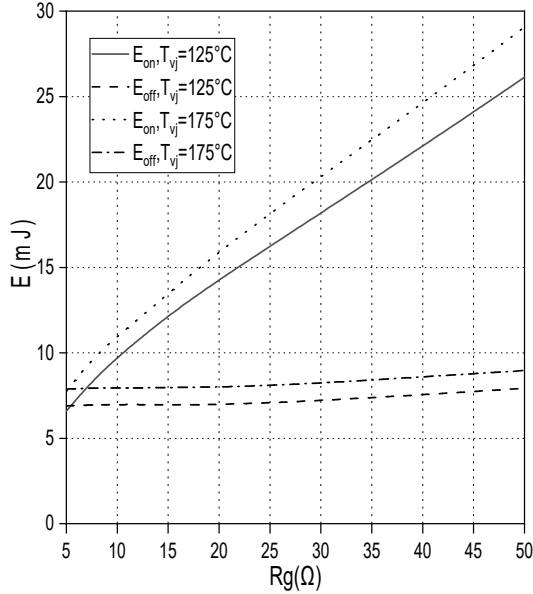
$E_{on} = f(I_C), E_{off} = f(I_C), V_{GE} = \pm 15V$

$R_{Gon} = 5.0\Omega, R_{Goff} = 5.0\Omega, V_{CE} = 600V$

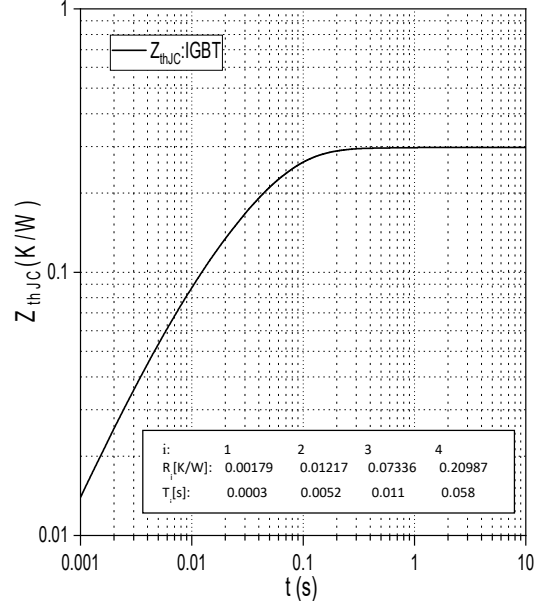




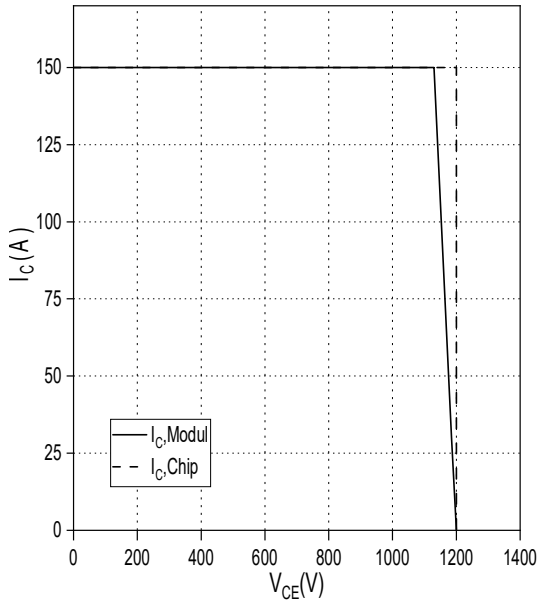
开关损耗 IGBT, 逆变器 (典型值)  
Switching losses IGBT, Inverter (typical)  
 $V_{GE} = \pm 15V, I_C = 75A, V_{CE} = 600V$



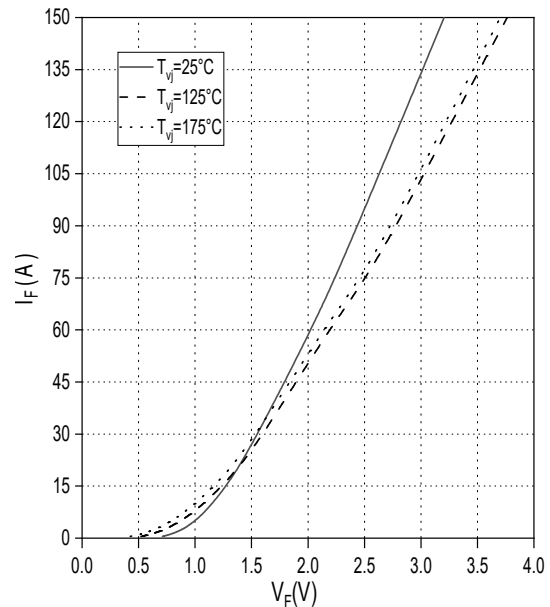
瞬态热阻抗 IGBT, 逆变器  
transient thermal impedance IGBT, Inverter  
 $Z_{thJC} = f(t)$



反偏安全工作区 IGBT, 逆变器(RBSOA)  
Reverse bias safe operating area IGBT, Inverter (RBSOA)  $I_C = f(V_{CE})$   
 $V_{GE} = \pm 15V, R_{Goff} = 5.0\Omega, T_{vj} = 175^\circ C$



正向偏压特性二极管, 逆变器 (典型值)  
forward characteristic of Diode, Inverter (typical)  
 $I_F = f(V_F)$

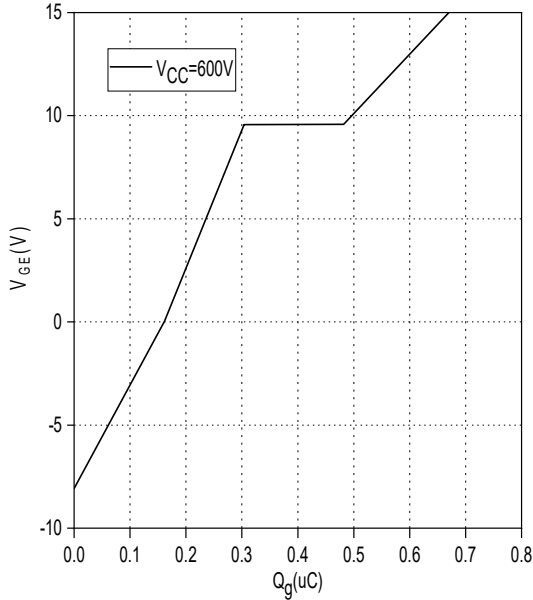


栅极电荷特性, IGBT, 逆变器 (典型)

Gate charge characteristic, IGBT, Inverter (typical)

$V_{GE} = f(Q_G)$

$I_C = 75A, T_{vj} = 25\text{ }^\circ\text{C}$

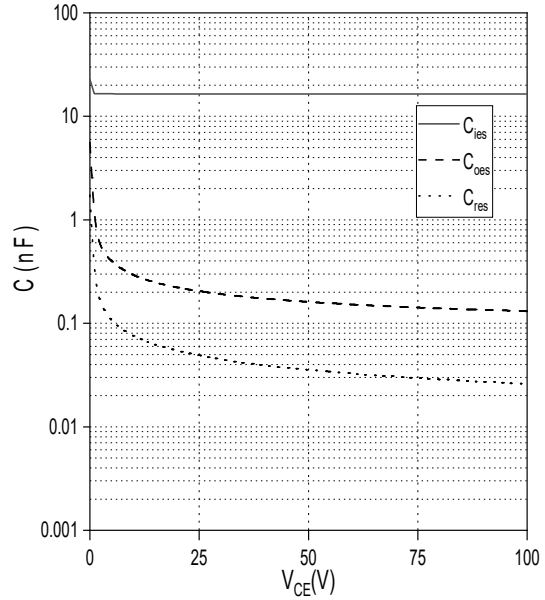


电容特性, IGBT, 逆变器 (典型)

Capacity characteristic, IGBT, Inverter (typical)

$C = f(V_{CE})$

$f = 100kHz, V_{GE} = 0\text{ V}, T_{vj} = 25\text{ }^\circ\text{C}$

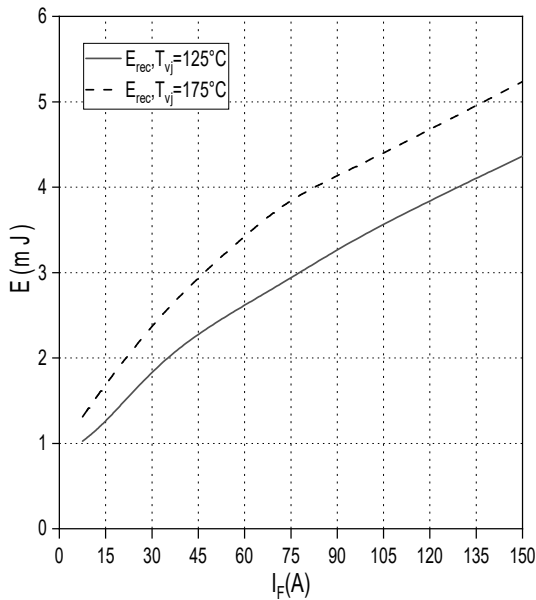


开关损耗 二极管, 逆变器 (典型值)

Switching losses Diode, Inverter (typical)

$E_{rec} = f(I_F)$

$R_{Gon} = 5.0\Omega, V_{CE} = 600V$

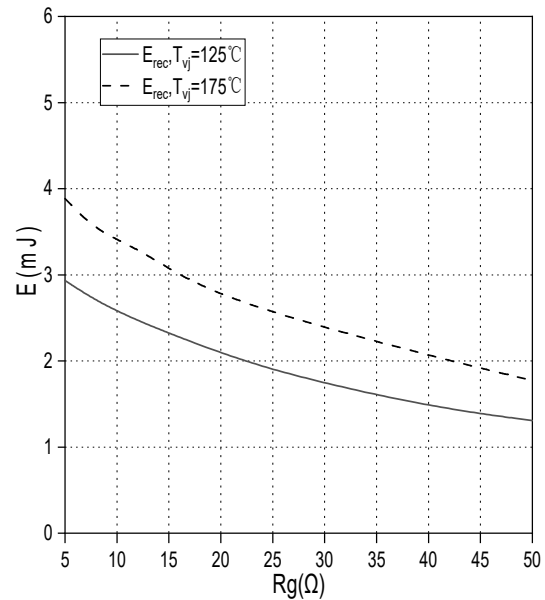


开关损耗 二极管, 逆变器 (典型值)

switching losses Diode, Inverter (typical)

$E_{rec} = f(R_G)$

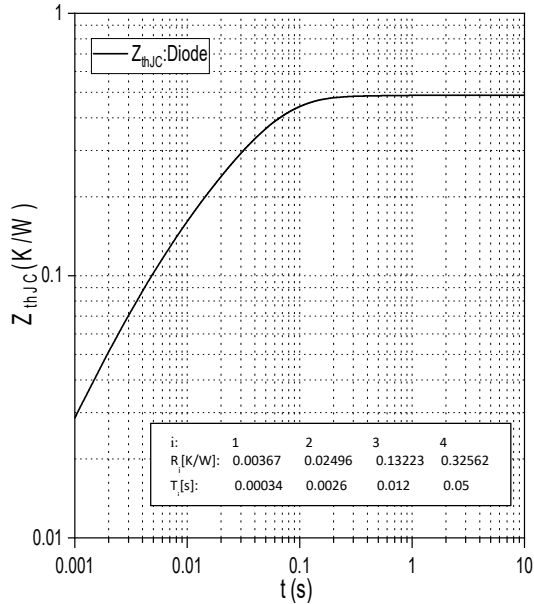
$I_F = 75A, V_{CE} = 600V$



瞬态热阻抗二极管, 逆变器

transient thermal impedance Diode, Inverter

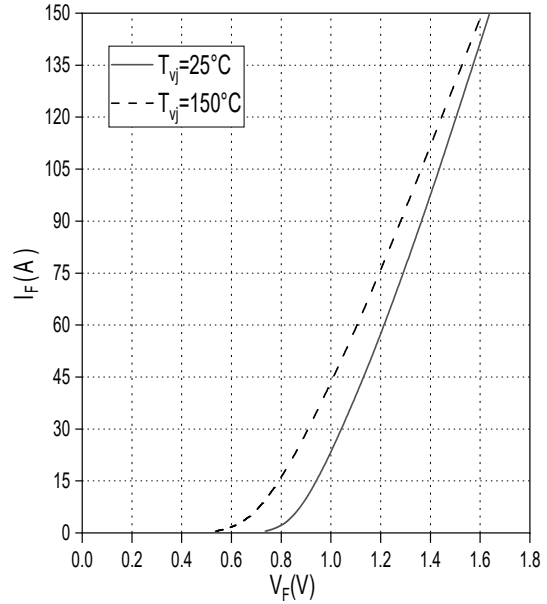
$Z_{thJC} = f(t)$



正向偏压特性 二极管, 整流器 (典型值)

forward characteristic of Diode Rectifier (typical)

$I_F = f(V_F)$

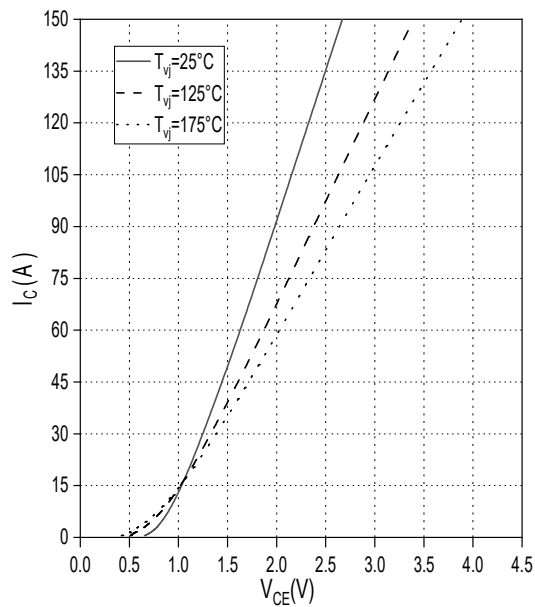


输出特性 IGBT, 制动-斩波器 (典型值)

Output characteristic IGBT, Brake-Chopper (typical)

$I_C = f(V_{CE})$

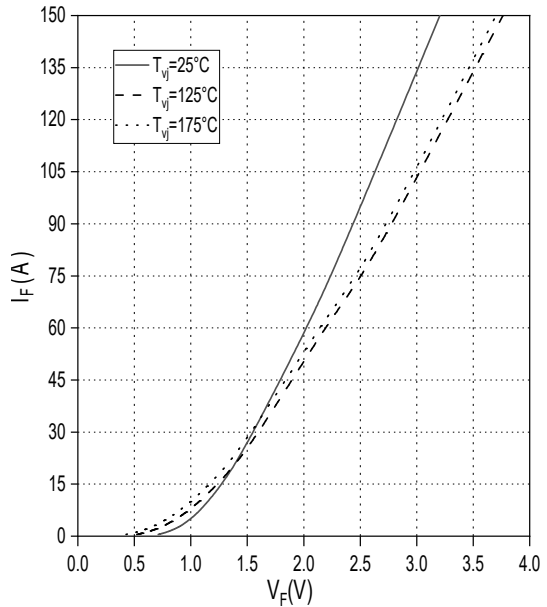
$V_{GE} = 15V$



正向偏压特性 二极管, 制动-斩波器 (典型值)

forward characteristic of Diode, Brake-Chopper (typical)

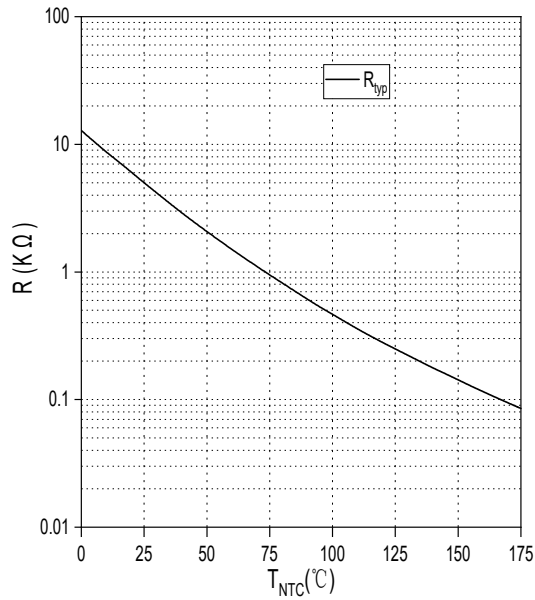
$I_F = f(V_F)$



负温度系数热敏电阻 温度特性 (典型值)

NTC-Thermistor-temperature characteristic (typical)

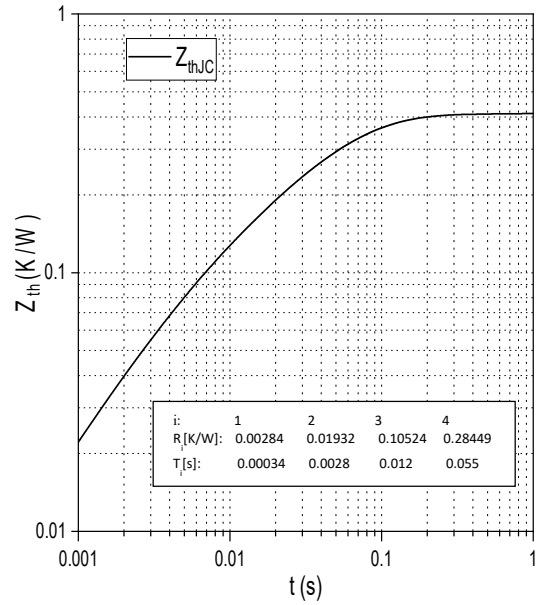
$R = f(T_{NTC})$



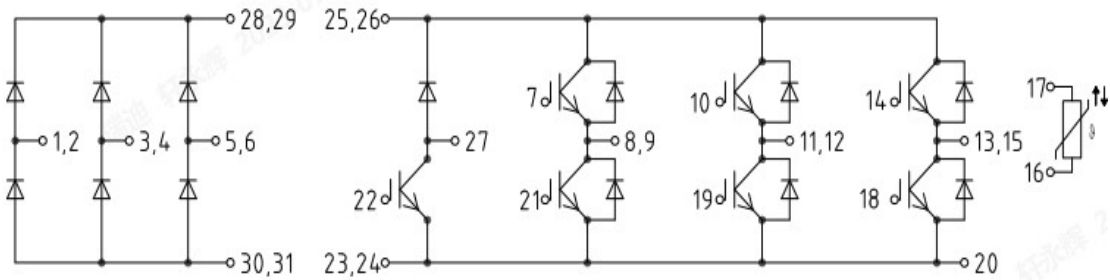
瞬态热阻抗二极管, 整流

transient thermal impedance Diode, Rectifier

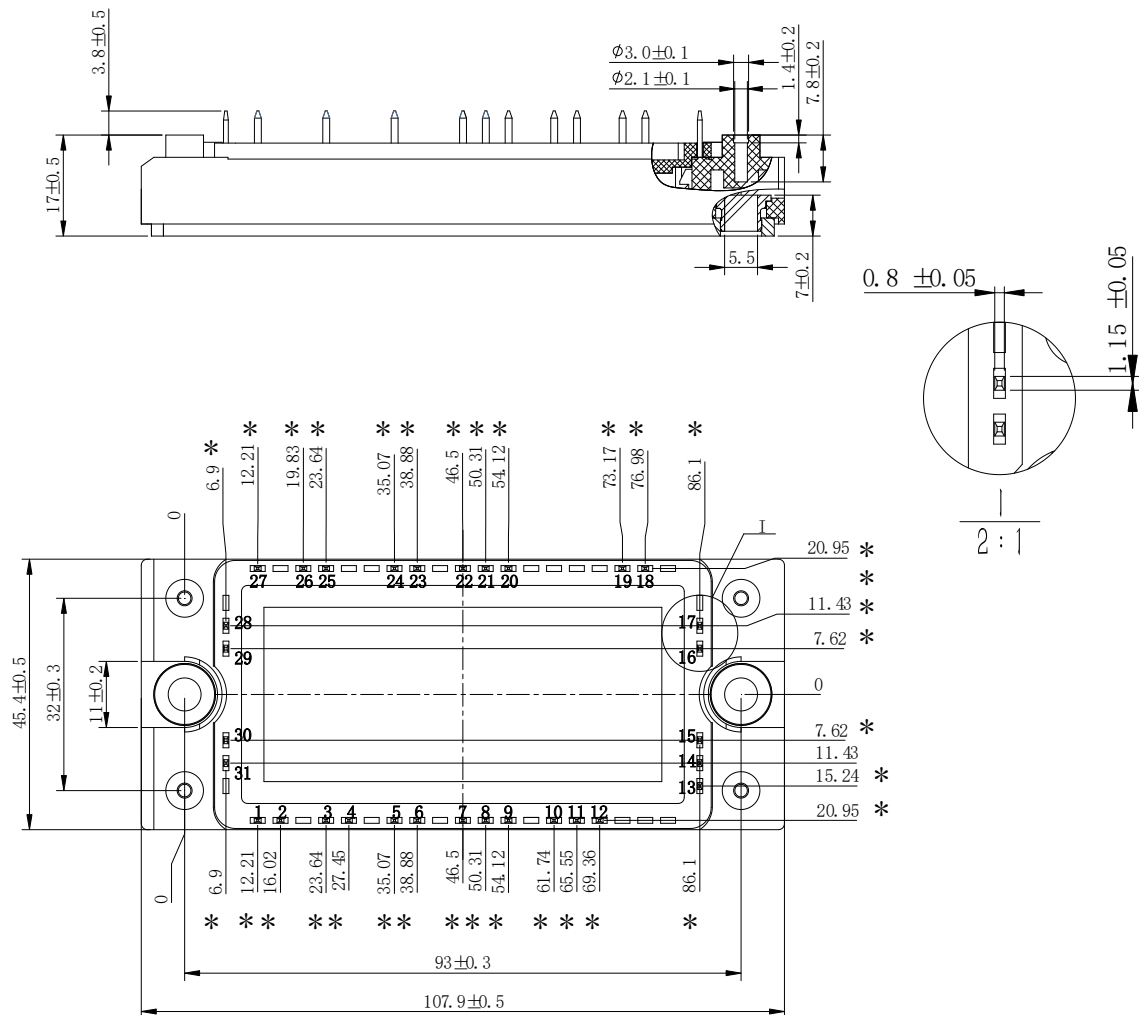
$Z_{thJC} = f(t)$



**Internal Circuit:**



**Package Dimension  
Dimensions in Millimeters**



\* = all dimensions with tolerance of  $\pm 0.5$