

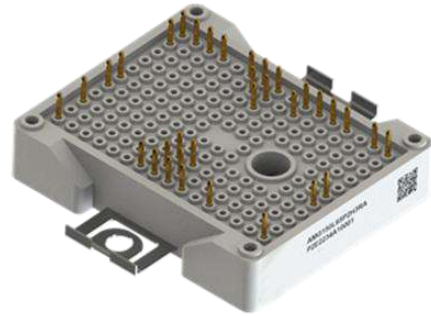
HCG100FL065E2RB

650V 100A IGBT Module

ACP-2 IGBT 模块 ACP-2 IGBT Module

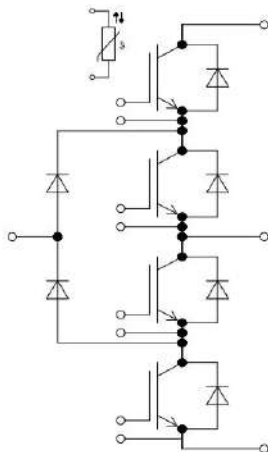
特性/Features:

- 650V 沟槽栅/场终止工艺
650V Trench Gate/Field-Stop Process
- 低电磁干扰
Low EMI
- 低开关损耗
Low Switching Losses
- V_{CEsat} 正温度系数
 V_{CEsat} with Positive Temperature Coefficient
- 低热阻三氧化二铝 (Al_2O_3) 衬底
 Al_2O_3 Substrate with Low Thermal Resistance
- 紧凑型设计
Compact Design
- 集成的安装夹使安装坚固
Rugged Mounting Due to Integrated Mounting Clamps



应用/Application:

- 三电平应用/3-Level-Applications
- 储能/PCS
- 不间断电源/UPS Systems
- 太阳能系统/Solar Applications



模块标签码/Module Label Code



AMG100L65P2H3RB = Specific Device Code
P2E2234A10001= Lot Traceability
ACP-2 = Package Type

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封装/Package

表 1 绝缘参数/Insulation coordination

Parameter	Conditions	Symbol	Value	Unit
绝缘测试电压 Isolation test voltage	RMS, f = 50Hz, t = 60s	V_{ISOL}	3.0	kV
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	d_{Creep}	11.5	mm
爬电距离 Creepage distance	端子至端子 Terminal to terminal	d_{Creep}	6.3	mm
电气间隙 Clearance	端子至散热器 Terminal to heatsink	d_{Clear}	10.0	mm
电气间隙 Clearance	端子至端子 Terminal to terminal	d_{Clear}	5.0	mm
相对电痕指数 Comparative tracking index		CTI	> 200	

表 2 特征值/Characteristic values

Parameter	Conditions	Symbol	Value			Unit
			Min.	Typ.	Max.	
杂散电感, 模块 Stray inductance module		L_{sCE}		15		nH
模块引线电阻, 端子—芯片 Module lead resistance, terminals - chip		$R_{CC'+EE'}$		2.8		mΩ
储存温度 Storage temperature		T_{stg}	-40		125	°C
模块安装的安装扭矩 Mounting torque for module mounting	根据相应的应用手册进行安装 Mounting according to valid application note	M5, 螺丝 M5, Screw	40		80	Nm
重量 Weight		G		38		g

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IGBT, (T1, T4)

表 3 最大标定值/Maximum rated values

Parameter	Conditions	Symbol	Value	Unit
集电极—发射极电压 Collector-emitter voltage	$T_j = 25^{\circ}\text{C}$	V_{CES}	650	V
集电极电流 DC collector current		I_{CN}	100	A
连续集电极直流电流 Continuous DC collector current	$T_{j\text{ max}} = 175^{\circ}\text{C}$, $T_c = 25^{\circ}\text{C}$ $T_H = 80^{\circ}\text{C}$	I_{CDC}	90	A
集电极重复峰值电流 Repetitive peak collector current	t_p limited by $T_{j\text{ op}}$	I_{CRM}	200	A
总功率损耗 Total power dissipation	$T_j = T_{j\text{ max}}$, $T_H = 80^{\circ}\text{C}$	P_{tot}	135	W
栅极—发射极电压 Gate-emitter peak voltage		V_{GES}	± 20	V

表 4 特征值/Characteristic values

Parameter	Conditions	Symbol	Value			Unit
			Min.	Typ.	Max.	
集电极-发射极饱和电压（端对端） Collector-emitter saturation voltage (pin to pin)	$I_C = 100\text{A}$, $V_{\text{GE}} = 15\text{V}$	$T_j = 25^{\circ}\text{C}$		1.28		V
		$T_j = 125^{\circ}\text{C}$		1.32		
		$T_j = 150^{\circ}\text{C}$		1.34		
栅极阈值电压 Gate threshold voltage	$I_C = 1\text{mA}$, $V_{\text{GE}} = V_{\text{CE}}$, $T_j = 25^{\circ}\text{C}$	V_{GEth}	3.0	4.0	5.0	V
栅极电荷 Gate charge	$V_{\text{GE}} = \pm 15\text{V}$, $V_{\text{CE}} = 400\text{V}$	Q_G		2.2		μC
内部栅极电阻 Internal gate resistor	$T_j = 25^{\circ}\text{C}$	R_{Gint}		0		Ω
输入电容 Input capacitance	$f = 1\text{MHz}$, $T_j = 25^{\circ}\text{C}$, $V_{\text{CE}} = 25\text{V}$, $V_{\text{GE}} = 0\text{V}$	C_{ies}		15.198		nF
反向传输电容 Reverse transfer capacitance	$f = 1\text{MHz}$, $T_j = 25^{\circ}\text{C}$, $V_{\text{CE}} = 25\text{V}$, $V_{\text{GE}} = 0\text{V}$	C_{res}		0.134		nF
集电极—发射极截止电流 Collector-emitter cut-off current	$V_{\text{CE}} = 650\text{V}$, $V_{\text{GE}} = 0\text{V}$, $T_j = 25^{\circ}\text{C}$	I_{CES}			0.01	mA
栅极—发射极漏电流 Gate-emitter leakage current	$V_{\text{CE}} = 0\text{V}$, $V_{\text{GE}} = 20\text{V}$, $T_j = 25^{\circ}\text{C}$	I_{GES}			200	nA
开通延迟时间（感性负载） Turn-on delay time (inductive load)	$I_C = 100\text{A}$, $V_{\text{CE}} = 300\text{V}$, $V_{\text{GE}} = \pm 15\text{V}$, $R_{\text{Gon}} = 7.5\Omega$	$T_j = 25^{\circ}\text{C}$				μs
		$T_j = 125^{\circ}\text{C}$		0.060		
		$T_j = 150^{\circ}\text{C}$				
上升时间（感性负载） Rise time (inductive load)	$I_C = 100\text{A}$, $V_{\text{CE}} = 300\text{V}$, $V_{\text{GE}} = \pm 15\text{V}$, $R_{\text{Gon}} = 7.5\Omega$	$T_j = 25^{\circ}\text{C}$				μs
		$T_j = 125^{\circ}\text{C}$		0.026		
		$T_j = 150^{\circ}\text{C}$				

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表 5 （续）特征值/ Characteristic values

Parameter	Conditions		Symbol	Value			Unit
				Min.	Typ.	Max.	
关断延迟时间（感性负载） Turn-off delay time (inductive load)	$I_C = 100A, V_{CE} = 300V,$ $V_{GE} = \pm 15V, R_{Goff} = 7.5\Omega$	$T_j = 25^\circ C$	t_{doff}				μs
		$T_j = 125^\circ C$			0.1		
		$T_j = 150^\circ C$					
下降时间（感性负载） Fall time (inductive load)	$I_C = 100A, V_{CE} = 300V,$ $V_{GE} = \pm 15V, R_{Goff} = 7.5\Omega$	$T_j = 25^\circ C$	t_f				μs
		$T_j = 125^\circ C$			0.08		
		$T_j = 150^\circ C$					
开通损耗能量（每脉冲） Turn-on energy loss per pulse	$I_C = 100A, V_{CE} = 300V,$ $V_{GE} = \pm 15V, R_{Gon} = 7.5\Omega$	$T_j = 125^\circ C$	E_{on}		0.090		mJ
	$I_C = 100A, V_{CE} = 300V,$ $V_{GE} = \pm 15V, R_{Goff} = 15\Omega$	$T_j = 125^\circ C$			1.513		
关断损耗能量（每脉冲） Turn-off energy loss per pulse	$I_C = 100A, V_{CE} = 300V,$ $V_{GE} = \pm 15V, R_{Goff} = 7.5\Omega$	$T_j = 125^\circ C$	E_{off}		2.792		mJ
	$I_C = 100A, V_{CE} = 300V,$ $V_{GE} = \pm 15V, R_{Goff} = 15\Omega$	$T_j = 125^\circ C$			2.851		
结—散热器热阻 Thermal resistance, junction to heatsink	每个IGBT, $\lambda_{grease} = 1W/(m^*K)$ Per IGBT, $\lambda_{grease} = 1W/(m^*K)$		R_{thJH}		0.7		K/W
允许开关的温度范围 Temperature under switching conditions			$T_{j\ op}$	-40		175	$^\circ C$

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IGBT, (T2, T3)

表 6 最大标定值/Maximum rated values

Parameter	Conditions	Symbol	Value	Unit
集电极-发射极电压 Collector-emitter voltage	$T_j = 25^{\circ}\text{C}$	V_{CES}	650	V
集电极电流 DC collector current		I_{CN}	100	A
连续集电极直流电流 Continuous DC collector current	$T_{j\text{max}} = 175^{\circ}\text{C}$, $T_c = 25^{\circ}\text{C}$ $T_H = 80^{\circ}\text{C}$	I_{CDC}	90	A
集电极重复峰值电流 Repetitive peak collector current	t_p limited by $T_{j\text{op}}$	I_{CRM}	200	A
总功率损耗 Total power dissipation	$T_j = T_{j\text{max}}$, $T_H = 80^{\circ}\text{C}$	P_{tot}	135	W
栅极-发射极电压 Gate-emitter peak voltage		V_{GES}	± 20	V

表 7 特征值/Characteristic values

Parameter	Conditions	Symbol	Value			Unit
			Min.	Typ.	Max.	
集电极-发射极饱和电压（端对端） Collector-emitter saturation voltage (pin to pin)	$I_C = 100\text{A}$, $V_{\text{GE}} = 15\text{V}$	$T_j = 25^{\circ}\text{C}$		1.28		V
		$T_j = 125^{\circ}\text{C}$		1.32		
		$T_j = 150^{\circ}\text{C}$		1.34		
栅极阈值电压 Gate threshold voltage	$I_C = 1\text{mA}$, $V_{\text{GE}} = V_{\text{CE}}$, $T_j = 25^{\circ}\text{C}$	V_{Geth}	3.0	4.0	5.0	V
栅极电荷 Gate charge	$V_{\text{GE}} = \pm 15\text{V}$, $V_{\text{CE}} = 400\text{V}$	Q_G		2.2		μC
内部栅极电阻 Internal gate resistor	$T_j = 25^{\circ}\text{C}$	R_{Gint}		0		Ω
输入电容 Input capacitance	$f = 1\text{MHz}$, $T_j = 25^{\circ}\text{C}$, $V_{\text{CE}} = 25\text{V}$, $V_{\text{GE}} = 0\text{V}$	C_{ies}		15.198		nF
反向传输电容 Reverse transfer capacitance	$f = 1\text{MHz}$, $T_j = 25^{\circ}\text{C}$, $V_{\text{CE}} = 25\text{V}$, $V_{\text{GE}} = 0\text{V}$	C_{res}		0.134		nF
集电极-发射极截止电流 Collector-emitter cut-off current	$V_{\text{CE}} = 650\text{V}$, $V_{\text{GE}} = 0\text{V}$, $T_j = 25^{\circ}\text{C}$	I_{CES}			0.01	mA
栅极-发射极漏电流 Gate-emitter leakage current	$V_{\text{CE}} = 0\text{V}$, $V_{\text{GE}} = 20\text{V}$, $T_j = 25^{\circ}\text{C}$	I_{GES}			200	nA
开通延迟时间（感性负载） Turn-on delay time (inductive load)	$I_C = 100\text{A}$, $V_{\text{CE}} = 300\text{V}$, $V_{\text{GE}} = \pm 15\text{V}$, $R_{\text{Gon}} = 7.5\Omega$	$T_j = 25^{\circ}\text{C}$				μs
		$T_j = 125^{\circ}\text{C}$		0.060		
		$T_j = 150^{\circ}\text{C}$				
上升时间（感性负载） Rise time (inductive load)	$I_C = 100\text{A}$, $V_{\text{CE}} = 300\text{V}$, $V_{\text{GE}} = \pm 15\text{V}$, $R_{\text{Gon}} = 7.5\Omega$	$T_j = 25^{\circ}\text{C}$				μs
		$T_j = 125^{\circ}\text{C}$		0.026		
		$T_j = 150^{\circ}\text{C}$				

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表 8 （续）特征值/ Characteristic values

Parameter	Conditions		Symbol	Value			Unit
				Min.	Typ.	Max.	
关断延迟时间（感性负载） Turn-off delay time (inductive load)	$I_C = 100A, V_{CE} = 300V,$ $V_{GE} = \pm 15V, R_{Goff} = 7.5\Omega$	$T_j = 25^\circ C$	t_{doff}				μs
		$T_j = 125^\circ C$			0.1		
		$T_j = 150^\circ C$					
下降时间（感性负载） Fall time (inductive load)	$I_C = 100A, V_{CE} = 300V,$ $V_{GE} = \pm 15V, R_{Goff} = 7.5\Omega$	$T_j = 25^\circ C$	t_f				μs
		$T_j = 125^\circ C$			0.08		
		$T_j = 150^\circ C$					
开通损耗能量（每脉冲） Turn-on energy loss per pulse	$I_C = 100A, V_{CE} = 300V,$ $V_{GE} = \pm 15V, R_{Gon} = 7.5\Omega$	$T_j = 125^\circ C$	E_{on}		0.090		mJ
	$I_C = 100A, V_{CE} = 300V,$ $V_{GE} = \pm 15V, R_{Goff} = 15\Omega$	$T_j = 125^\circ C$			1.513		
关断损耗能量（每脉冲） Turn-off energy loss per pulse	$I_C = 100A, V_{CE} = 300V,$ $V_{GE} = \pm 15V, R_{Goff} = 7.5\Omega$	$T_j = 125^\circ C$	E_{off}		2.792		mJ
	$I_C = 100A, V_{CE} = 300V,$ $V_{GE} = \pm 15V, R_{Goff} = 15\Omega$	$T_j = 125^\circ C$			2.851		
结—散热器热阻 Thermal resistance, junction to heatsink	每个IGBT, $\lambda_{grease} = 1W/(m^*K)$ Per IGBT, $\lambda_{grease} = 1W/(m^*K)$		R_{thJH}		0.7		K/W
允许开关的温度范围 Temperature under switching conditions			$T_{j\ op}$	-40		175	$^\circ C$

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二极管, (D1, D4) / Diode, (D1, D4)

表 9 最大标定值/Maximum rated values

Parameter	Conditions	Symbol	Value	Unit
反向重复峰值电压 Repetitive peak reverse voltage	$T_j = 25^{\circ}\text{C}$	V_{RRM}	650	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	$t_p = 1\text{ms}$	I_{FRM}	200	A
I_{2t} -值 I_{2t} - value	$t_p = 10\text{ms}, V_R = 0\text{V}$	I_{2t}		A^2s
	$T_j = 125^{\circ}\text{C}$			
	$T_j = 150^{\circ}\text{C}$			

表 10 特征值/Characteristic values

Parameter	Conditions	Symbol	Value			Unit
			Min.	Typ.	Max.	
正向电压 Forward voltage	$I_F = 100\text{A}, V_{GE} = 0\text{V}$	V_F		1.84		V
				1.8		
				1.77		
反向恢复峰值电流 Peak reverse recovery current	$V_R = 300\text{V}, I_F = 100\text{A}, V_{GE} = -15\text{V}, -di_F/dt = 2000\text{A}/\mu\text{s}$	I_{RM}				A
				25		
反向恢复电荷 Recovered charge	$V_R = 300\text{V}, I_F = 100\text{A}, V_{GE} = -15\text{V}, -di_F/dt = 1400\text{A}/\mu\text{s}$	Q_r				μC
				2.24		
反向恢复损耗（每脉冲） Reverse recovery energy	$V_R = 300\text{V}, I_F = 100\text{A}, V_{GE} = -15\text{V}, -di_F/dt = 1400\text{A}/\mu\text{s}$	E_{rec}				mJ
				0.33		
结—散热器热阻 Thermal resistance, junction to heatsink	每个二极管, $\lambda_{grease} = 1\text{ W}/(\text{m}^2\text{K})$ Per diode, $\lambda_{grease} = 1\text{ W}/(\text{m}^2\text{K})$	R_{thJH}		0.77		K/W
允许开关的温度范围 Temperature under switching conditions		$T_{j\text{op}}$	-40		175	$^{\circ}\text{C}$

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二极管, (D2, D3) / Diode, (D2, D3)

表 11 最大标称值/Maximum rated values

Parameter	Conditions		Symbol	Value	Unit
反向重复峰值电压 Repetitive peak reverse voltage	$T_j = 25^{\circ}\text{C}$		V_{RRM}	650	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	$t_P = 1\text{ms}$		I_{FRM}	200	A
I2t-值 I2t - value	$t_P = 10\text{ms}, V_R = 0\text{V}$	$T_j = 125^{\circ}\text{C}$	I^2t		A^2s
		$T_j = 150^{\circ}\text{C}$			

表 12 特征值/Characteristic values

Parameter	Conditions		Symbol	Value			Unit
				Min.	Typ.	Max.	
正向电压 Forward voltage	$I_F = 100\text{A}, V_{\text{GE}} = 0\text{V}$	$T_j = 25^{\circ}\text{C}$	V_F		1.23		V
		$T_j = 125^{\circ}\text{C}$			1.18		
		$T_j = 150^{\circ}\text{C}$			1.15		
反向恢复峰值电流 Peak reverse recovery current	$V_R = 300\text{V}, I_F = 100\text{A}, V_{\text{GE}} = -15\text{V}, -di_F/dt = 2000\text{A}/\mu\text{s}$	$T_j = 25^{\circ}\text{C}$	I_{RM}		25		A
		$T_j = 125^{\circ}\text{C}$					
		$T_j = 150^{\circ}\text{C}$					
反向恢复电荷 Recovered charge	$V_R = 300\text{V}, I_F = 100\text{A}, V_{\text{GE}} = -15\text{V}, -di_F/dt = 1400\text{A}/\mu\text{s}$	$T_j = 25^{\circ}\text{C}$	Q_r		2.24		μC
		$T_j = 125^{\circ}\text{C}$					
		$T_j = 150^{\circ}\text{C}$					
反向恢复损耗（每脉冲） Reverse recovery energy	$V_R = 300\text{V}, I_F = 100\text{A}, V_{\text{GE}} = -15\text{V}, -di_F/dt = 1400\text{A}/\mu\text{s}$	$T_j = 25^{\circ}\text{C}$	E_{rec}		0.33		mJ
		$T_j = 125^{\circ}\text{C}$					
		$T_j = 150^{\circ}\text{C}$					
结—散热器热阻 Thermal resistance, junction to heatsink	每个二极管, $\lambda_{\text{grease}} = 1\text{ W}/(\text{m}^2\text{K})$ Per diode, $\lambda_{\text{grease}} = 1\text{ W}/(\text{m}^2\text{K})$		R_{thJH}		0.67		K/W
允许开关的温度范围 Temperature under switching conditions			$T_{j\text{ op}}$	-40		175	$^{\circ}\text{C}$

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二极管, (D5, D6) / Diode, (D5, D6)

表 13 最大标定值/Maximum rated values

Parameter	Conditions	Symbol	Value	Unit
反向重复峰值电压 Repetitive peak reverse voltage	$T_j = 25^{\circ}\text{C}$	V_{RRM}	650	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	$t_P = 1\text{ms}$	I_{FRM}	200	A
I _{2t} -值 I _{2t} - value	$t_P = 10\text{ms}, V_R = 0\text{V}$	$T_j = 125^{\circ}\text{C}$		A ² s
		$T_j = 150^{\circ}\text{C}$		

表 14 特征值/Characteristic values

Parameter	Conditions	Symbol	Value			Unit
			Min.	Typ.	Max.	
正向电压 Forward voltage	$I_F = 100\text{A}, V_{GE} = 0\text{V}$	$T_j = 25^{\circ}\text{C}$		1.84		V
		$T_j = 125^{\circ}\text{C}$		1.8		
		$T_j = 150^{\circ}\text{C}$		1.77		
反向恢复峰值电流 Peak reverse recovery current	$V_R = 300\text{V}, I_F = 100\text{A}, V_{GE} = -15\text{V}, -di_F/dt = 2000\text{A}/\mu\text{s}$	$T_j = 25^{\circ}\text{C}$				A
		$T_j = 125^{\circ}\text{C}$		25		
		$T_j = 150^{\circ}\text{C}$				
反向恢复电荷 Recovered charge	$V_R = 300\text{V}, I_F = 100\text{A}, V_{GE} = -15\text{V}, -di_F/dt = 1400\text{A}/\mu\text{s}$	$T_j = 25^{\circ}\text{C}$				μC
		$T_j = 125^{\circ}\text{C}$		2.24		
		$T_j = 150^{\circ}\text{C}$				
反向恢复损耗（每脉冲） Reverse recovery energy	$V_R = 300\text{V}, I_F = 100\text{A}, V_{GE} = -15\text{V}, -di_F/dt = 1400\text{A}/\mu\text{s}$	$T_j = 25^{\circ}\text{C}$				mJ
		$T_j = 125^{\circ}\text{C}$		0.33		
		$T_j = 150^{\circ}\text{C}$				
结—散热器热阻 Thermal resistance, junction to heatsink	每个二极管, $\lambda_{grease} = 1\text{ W}/(\text{m}^{\circ}\text{K})$ Per diode, $\lambda_{grease} = 1\text{ W}/(\text{m}^{\circ}\text{K})$	R_{thJH}		0.77		K/W
允许开关的温度范围 Temperature under switching conditions		$T_{j\text{ op}}$	-40		175	$^{\circ}\text{C}$

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负温度系数热敏电阻/NTC-Thermistor

表 15 特征值/Characteristic values

Parameter	Conditions	Symbol	Value			Unit
			Min.	Typ.	Max.	
额定电阻值 Rated resistance	$T_{NTC} = 25^{\circ}\text{C}$	R_{25}		5		$\text{k}\Omega$
R_{100} 偏差 Deviation of R_{100}	$T_{NTC} = 100^{\circ}\text{C}, R_{100} = 493\ \Omega$	$\Delta R/R$	-5		5	%
耗散功率 Power dissipation	$T_{NTC} = 25^{\circ}\text{C}$	P_{25}		20		mW
B-值 B-value	$R_2 = R_{25} \exp[B_{25/50}(1/T_2 - 1/(298,15\ \text{K}))]$	$B_{25/50}$		3375		K
B-值 B-value	$R_2 = R_{25} \exp[B_{25/80}(1/T_2 - 1/(298,15\ \text{K}))]$	$B_{25/80}$		3411		K
B-值 B-value	$R_2 = R_{25} \exp[B_{25/100}(1/T_2 - 1/(298,15\ \text{K}))]$	$B_{25/100}$		3433		K

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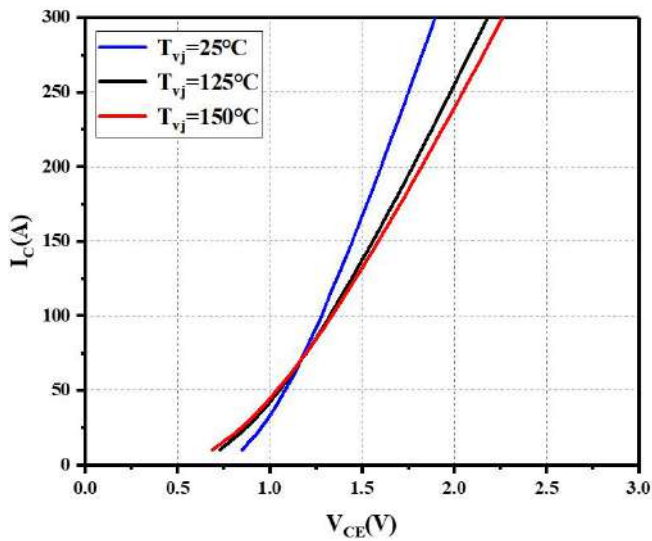
650V 100A IGBT Module

Characteristics diagrams/特征图

Output characteristic (typical) IGBT (T1/T2/T3/T4)
输出特性曲线（典型）

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

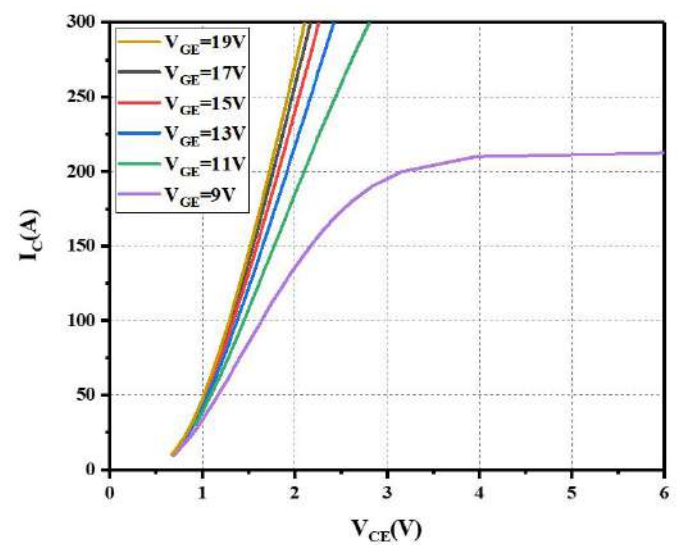
$$V_{GE} = 15V$$



Output characteristic (typical) IGBT (T1/T2/T3/T4)
输出特性曲线（典型）

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

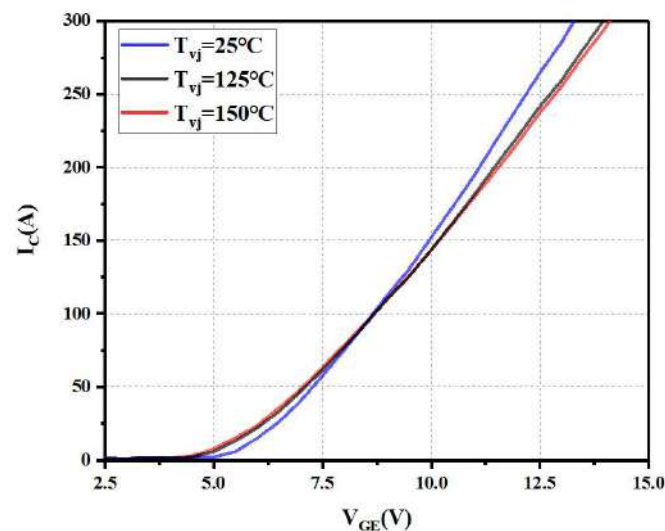
$$T_{vj} = 150^{\circ}C$$



Transfer characteristic (typical) IGBT (T1/T2/T3/T4)
传输特性曲线（典型）

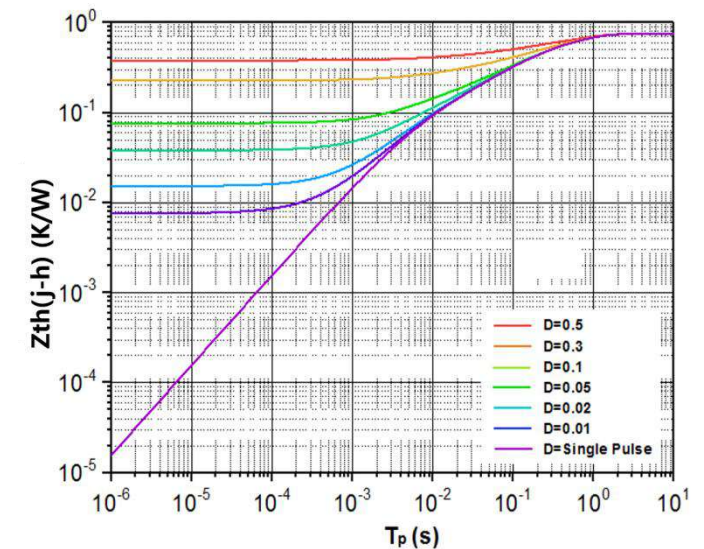
$$I_C = f(V_{GE})$$

$$V_{CE} = 20V$$



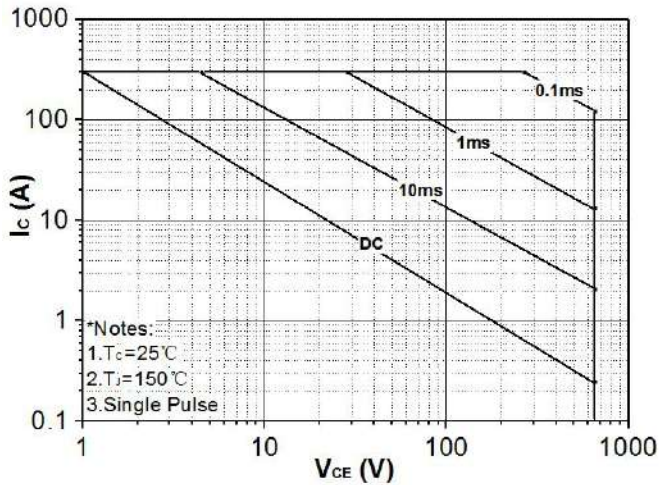
Transient thermal impedance as a function of pulse width IGBT (T1/T2/T3/T4)
瞬态热阻抗

$$Z_{th(j-h)} = f(t_p)$$



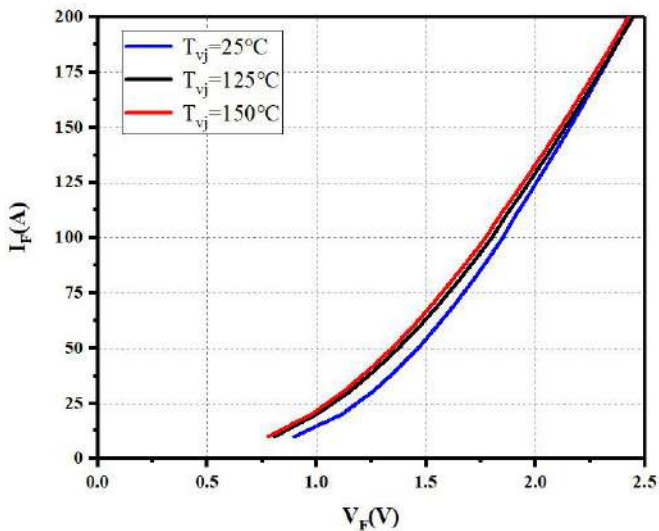
Safe operating area (SOA) IGBT (T1/T2/T3/T4)
安全工作区 (SOA)

$I_C = f(V_{CE})$
D= single pulse, $V_{GE} = 15V$, $T_{vj} = T_{jmax}$



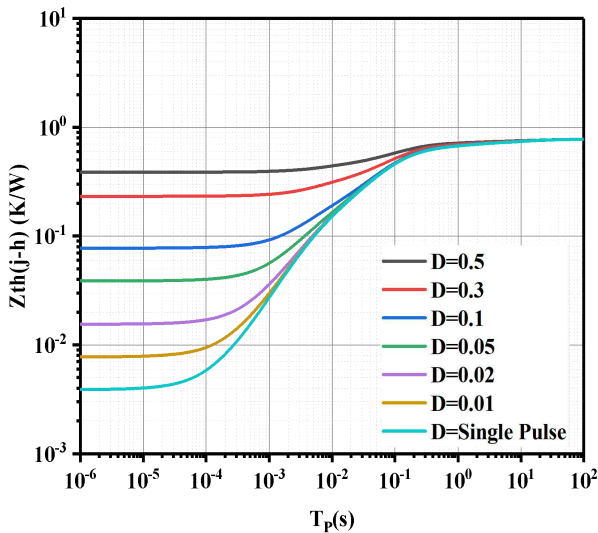
Typical forward characteristics DIODE (D1/D4/D5/D6)
正向特性曲线 (典型)

$I_F = f(V_F)$



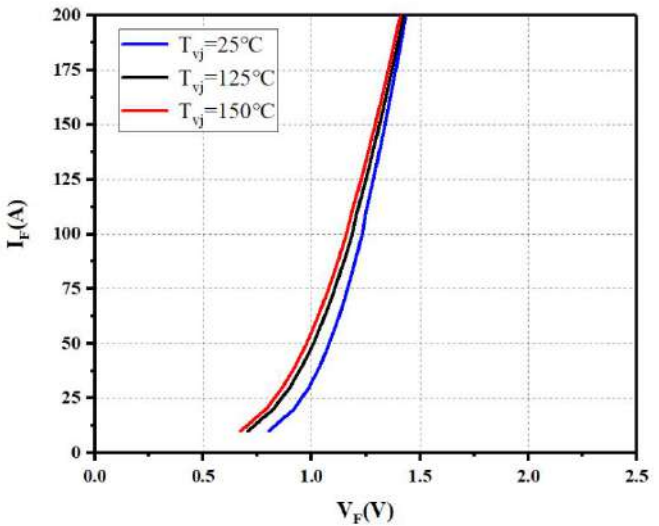
Transient thermal impedance as a function of pulse width DIODE(D1/D4/D5/D6)
瞬态热阻抗

$Z_{th(j-h)} = f(t_p)$



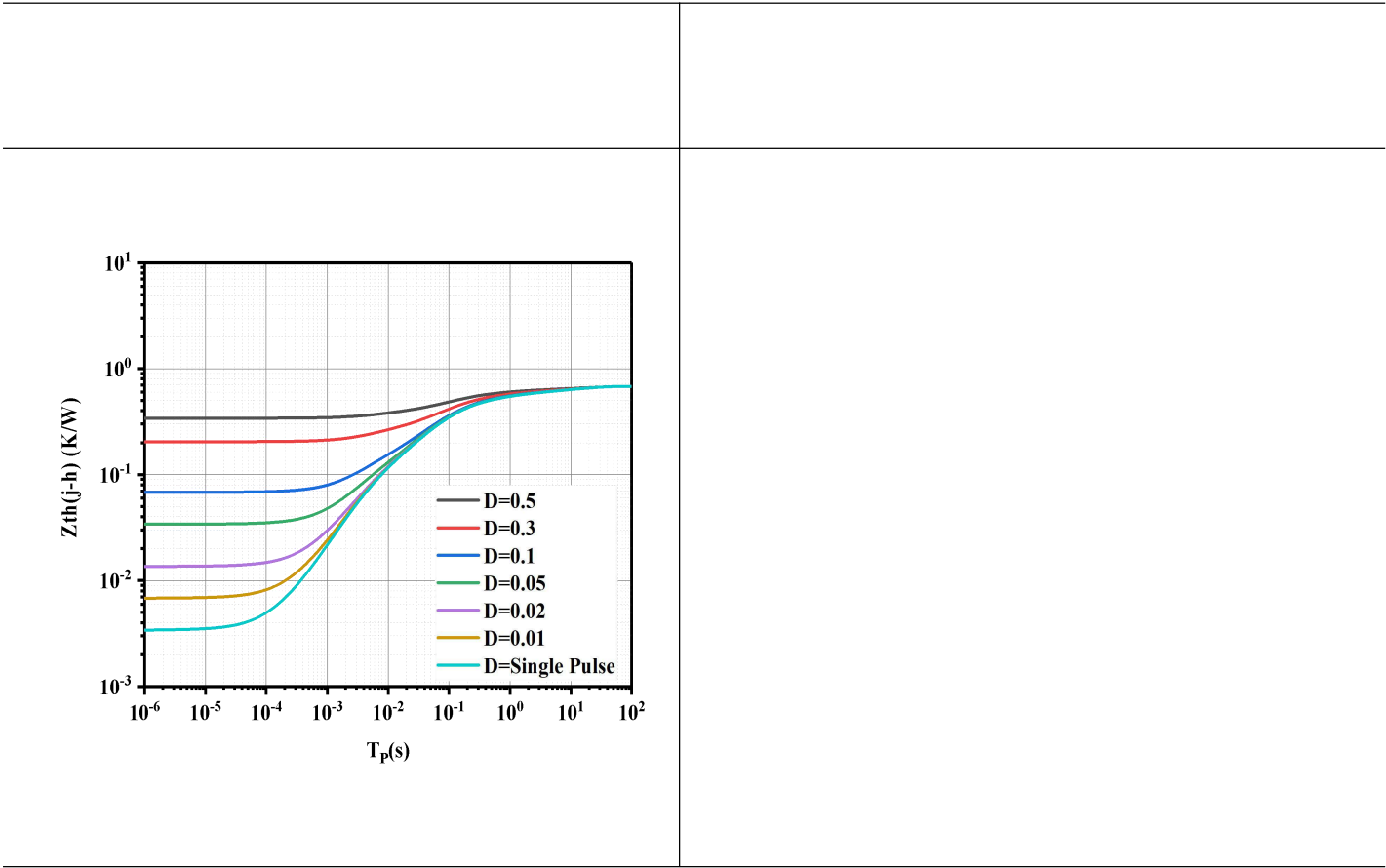
Typical forward characteristics DIODE (D2/D3)
正向特性曲线 (典型)

$I_F = f(V_F)$



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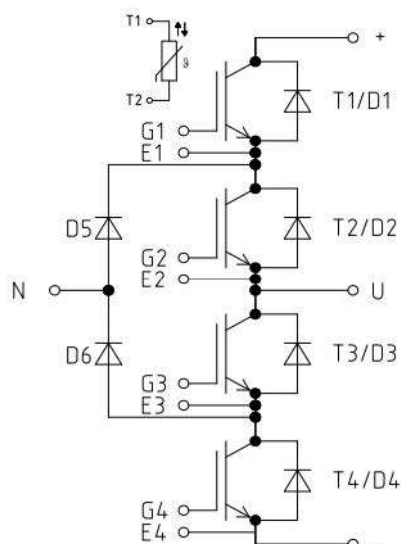
650V 100A IGBT Module



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650V 100A IGBT Module

电路拓扑图 / Circuit diagram



封装尺寸 / Package outlines

