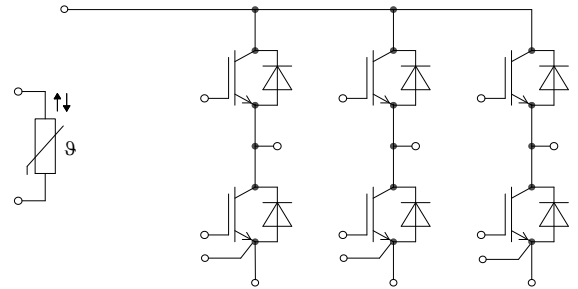
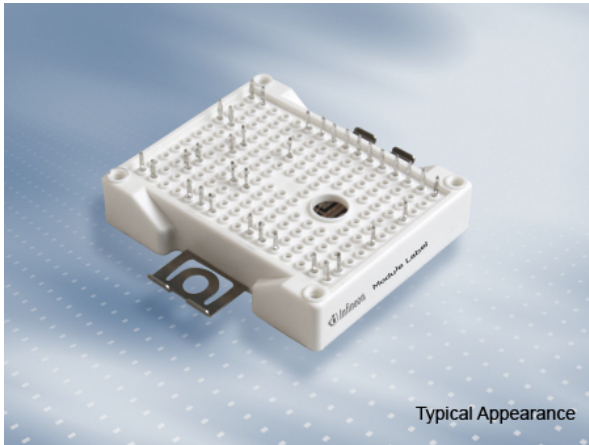


EasyPACK™ 模块 采用第七代沟槽栅/场终止IGBT7和第七代发射极控制二极管 带有pressfit压接管脚和温度检测NTC
 EasyPACK™ module with TRENCHSTOP™ IGBT7 and Emitter Controlled 7 diode and PressFIT / NTC

初步数据 / Preliminary Data



$V_{CES} = 1200V$
 $I_{C\ nom} = 75A / I_{CRM} = 150A$

潜在应用

- UPS系统
- 伺服驱动器
- 电机传动
- 空调
- 辅助逆变器

Potential Applications

- UPS systems
- Servo drives
- Motor drives
- Air conditioning
- Auxiliary inverters

电气特性

- 低 V_{CEsat}
- 沟槽栅IGBT7
- 过载操作达175°C

Electrical Features

- LOW V_{CEsat}
- Trenchstop™ IGBT7
- Overload operation up to 175°C

机械特性

- 2.5 kV 交流 1分钟 绝缘
- PressFIT 压接技术
- 低热阻的三氧化二铝 Al_2O_3 衬底
- 紧凑型设计
- 高功率密度

Mechanical Features

- 2.5 kV AC 1min insulation
- PressFIT contact technology
- Al_2O_3 substrate with low thermal resistance
- Compact design
- High power density

Module Label Code

Barcode Code 128



DMX - Code



Content of the 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	$T_{vj} = 25^{\circ}\text{C}$	V_{CES}	1200	V
集电极电流 Implemented collector current		I_{CN}	75	A
连续集电极直流电流 Continuous DC collector current	$T_H = 65^{\circ}\text{C}, T_{vj\max} = 175^{\circ}\text{C}$	I_{CDC}	65	A
集电极重复峰值电流 Repetitive peak collector current	$t_p = 1\text{ ms}$	I_{CRM}	150	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	$I_C = 75\text{ A}$ $V_{GE} = 15\text{ V}$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	$V_{CE\text{ sat}}$	1,55 1,69 1,77	t.b.d.	V V V
栅极阈值电压 Gate threshold voltage	$I_C = 1,70\text{ mA}, V_{CE} = V_{GE}, T_{vj} = 25^{\circ}\text{C}$		V_{GETH}	5,15	5,80	6,45 V
栅极电荷 Gate charge	$V_{GE} = -15 / 15\text{ V}, V_{CE} = 600\text{ V}$		Q_G	1,25		μC
内部栅极电阻 Internal gate resistor	$T_{vj} = 25^{\circ}\text{C}$		R_{Gint}	2,0		Ω
输入电容 Input capacitance	$f = 100\text{ kHz}, T_{vj} = 25^{\circ}\text{C}, V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}$		C_{ies}	15,1		nF
反向传输电容 Reverse transfer capacitance	$f = 100\text{ kHz}, T_{vj} = 25^{\circ}\text{C}, V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}$		C_{res}	0,053		nF
集电极-发射极截止电流 Collector-emitter cut-off current	$V_{CE} = 1200\text{ V}, V_{GE} = 0\text{ V}, T_{vj} = 25^{\circ}\text{C}$		I_{CES}		0,013	mA
栅极-发射极漏电流 Gate-emitter leakage current	$V_{CE} = 0\text{ V}, V_{GE} = 20\text{ V}, T_{vj} = 25^{\circ}\text{C}$		I_{GES}		100	nA
开通延迟时间(电感负载) Turn-on delay time, inductive load	$I_C = 75\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = -15 / 15\text{ V}$ $R_{Gon} = 2,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	t_{don}	0,13 0,15 0,158		μs μs μs
上升时间(电感负载) Rise time, inductive load	$I_C = 75\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = -15 / 15\text{ V}$ $R_{Gon} = 2,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	t_r	0,03 0,038 0,04		μs μs μs
关断延迟时间(电感负载) Turn-off delay time, inductive load	$I_C = 75\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = -15 / 15\text{ V}$ $R_{Goff} = 2,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	t_{doff}	0,27 0,35 0,39		μs μs μs
下降时间(电感负载) Fall time, inductive load	$I_C = 75\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = -15 / 15\text{ V}$ $R_{Goff} = 2,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	t_f	0,12 0,21 0,27		μs μs μs
开通损耗能量(每脉冲) Turn-on energy loss per pulse	$I_C = 75\text{ A}, V_{CE} = 600\text{ V}, L_{\sigma} = 35\text{ nH}$ $di/dt = 1700\text{ A}/\mu\text{s} (T_{vj} = 175^{\circ}\text{C})$ $V_{GE} = -15 / 15\text{ V}, R_{Gon} = 2,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	E_{on}	4,92 7,49 8,99		mJ mJ mJ
关断损耗能量(每脉冲) Turn-off energy loss per pulse	$I_C = 75\text{ A}, V_{CE} = 600\text{ V}, L_{\sigma} = 35\text{ nH}$ $du/dt = 3000\text{ V}/\mu\text{s} (T_{vj} = 175^{\circ}\text{C})$ $V_{GE} = -15 / 15\text{ V}, R_{Goff} = 2,2\ \Omega$	$T_{vj} = 25^{\circ}\text{C}$ $T_{vj} = 125^{\circ}\text{C}$ $T_{vj} = 175^{\circ}\text{C}$	E_{off}	5,47 8,27 9,67		mJ mJ mJ
短路数据 SC data	$V_{GE} \leq 15\text{ V}, V_{CC} = 800\text{ V}$ $V_{CEmax} = V_{CES} - L_{sCE} \cdot di/dt$	$t_p \leq 8\ \mu\text{s}, T_{vj} = 150^{\circ}\text{C}$ $t_p \leq 7\ \mu\text{s}, T_{vj} = 175^{\circ}\text{C}$	I_{SC}	260 240		A A
结 - 散热器热阻 Thermal resistance, junction to heatsink	每个 IGBT / per IGBT		R_{thJH}	0,803		K/W
在开关状态下温度 Temperature under switching conditions			$T_{vj\text{ op}}$	-40	175	$^{\circ}\text{C}$