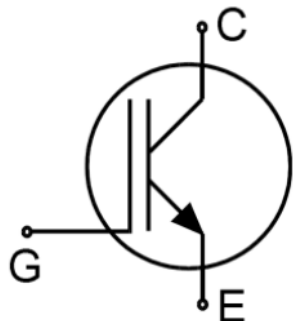
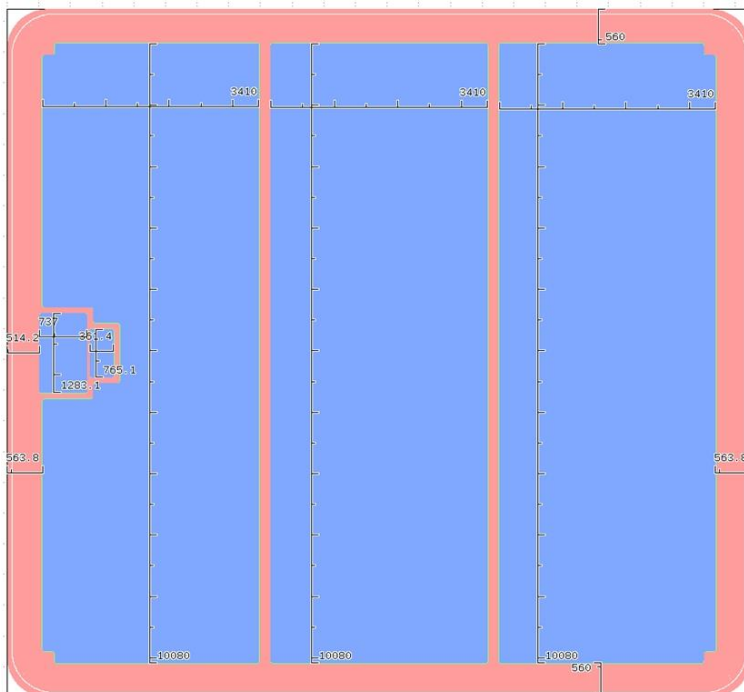


PI200C120WFHA7 Field Stop Trench IGBT

Circuit diagram



芯片表面布局图/ Chip Drawing (μm)


机械特性/ Mechanical Parameters

Item	Description
Wafer diameter	12 inch, 300mm, with 100 notch
Gross die / per wafer	456/wafer
Wafer thickness	120 μm
Front metal composition/thickness	Al 5.0um
Backside metal composition/thickness	Al/Ti/Ni/Ag:1.5μm
Die size With scribe Line	11280μm × 11830μm
Gate pad size	737μm × 1283μm
Scribe line Width	X: 80μm; Y: 80μm

最大额定值/ Maximum Ratings

Parameter	Symbol	Value	Unit
集电极-发射极电压 Collector Emitter Voltage $T_{vj} = 25\text{ C}$	V_{CES}	1200	V
集电极电流	I_c	200 ¹⁾	A

DC Collector Current, limited by $T_{vj,max}$			
集电极峰值电流 Peak Collector Current , limited by $T_{vj,max}$	I_{CM}	400	A
栅极 发射极电压 Gate-Emitter Voltage	V_{GES}	± 20	V
IGBT短路耐量 IGBT short circuit withstand time	t_{sc}	10	μs
最高结温 Maximum junction temperature	$T_{vj,max}$	175	$^{\circ}C$
工作结温 Operating junction temperature	$T_{vj,op}$	-40~150	$^{\circ}C$

¹⁾取决于封装热特性/depending on thermal properties of assembly

静态参数（晶圆上测试， $T_{vj} = 25^{\circ}C$ ） / Static Characteristics (tested on wafer, $T_{vj} = 25^{\circ}C$)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
集电极 发射极反向击穿电压 Collector-Emitter Breakdown Voltage	V_{CES}	$V_{GE} = 0 V, I_C = 1 mA$	1200	--	--	V
集电极-发射极饱和电压 Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 200 A, V_{GE} = 15 V$	1.6	1.85	2.1	V
栅极 发射极开启电压 Gate-Emitter Threshold Voltage	$V_{GE(th)}$	$I_C = 1 mA, V_{CE} = V_{GE}$	5.0	5.6	6.5	V
集电极-发射极截止电流 Collector-Emitter Cut-off Current	I_{CES}	$V_{CE} = 1200 V, V_{GE} = 0 V$	--	--	4	μA
栅极-发射极漏电流 Gate-Emitter Leakage Current	I_{GES}	$V_{CE} = 0 V, V_{GE} = 20 V$	--	--	300	nA
内置栅极电阻 Integrated gate resistor	R_g	/	5.0			Ω