

Features:

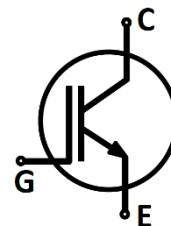
- 1200V Trench & field stop technology
- Low switching losses
- High short circuit capability
- Positive Temperature coefficient
- Easy paralleling

Recommended for:

Low / medium power modules

Applications:

Low / medium power drives



Mechanical parameters

Die size	$L \times W$	4.26×4.07	mm ²
Emitter pad size	$L \times W$	See chip drawing	mm ²
Gate pad size	$L \times W$	1.185×0.702	mm ²
Silicon thickness		115	μm
Wafer size		200	mm
Maximum possible chips per wafer		1555	
Passivation frontside		Polyimide	
Pad Metallization	AlCu	4	μm
Backside Metallization	Al / Ti / Ni / Ag	1.7	μm

Maximum Ratings

Parameters	Symbol	Value	Unit
Collector-emitter voltage	V_{CE}	1200	V
DC collector current, limited by $T_{vj\ max}$	I_C	15 ¹	A
Pulsed collector current, t_p limited by $T_{vj\ max}$ ²	$I_{C\ puls}$	45	A
Gate-emitter voltage	V_{GE}	±20	V
Operating junction temperature	$T_{vj\ op}$	-40~175	°C
Storage temperature	T_{stg}	-40~150	°C
Short circuit data ³ ($V_{GE}=15V$, $V_{CC}=600V$, $T_{vj}=150^\circ C$)	t_{sc}	10	μs

Static Characteristic ($T_{vj}=25^\circ C$, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Collector-emitter breakdown voltage	$V_{(BR)CES}$	$V_{GE}=0V$, $I_C=1mA$	1200	-	-	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$V_{GE}=15V$, $I_C=15A$	1.58	1.85	2.07	V
Gate-emitter threshold voltage	$V_{GE(th)}$	$I_C=0.5mA$, $V_{CE}=V_{GE}$	5.3	5.8	6.3	V
Collector-emitter leakage	I_{CES}	$V_{CE}=1200V$, $V_{GE}=0V$	-	-	2	μA
Gate-emitter leakage	I_{GES}	$V_{CE}=0V$, $V_{GE}=20V$	-	-	120	nA
Integrated gate resistor	R_{Gint}		none			Ω

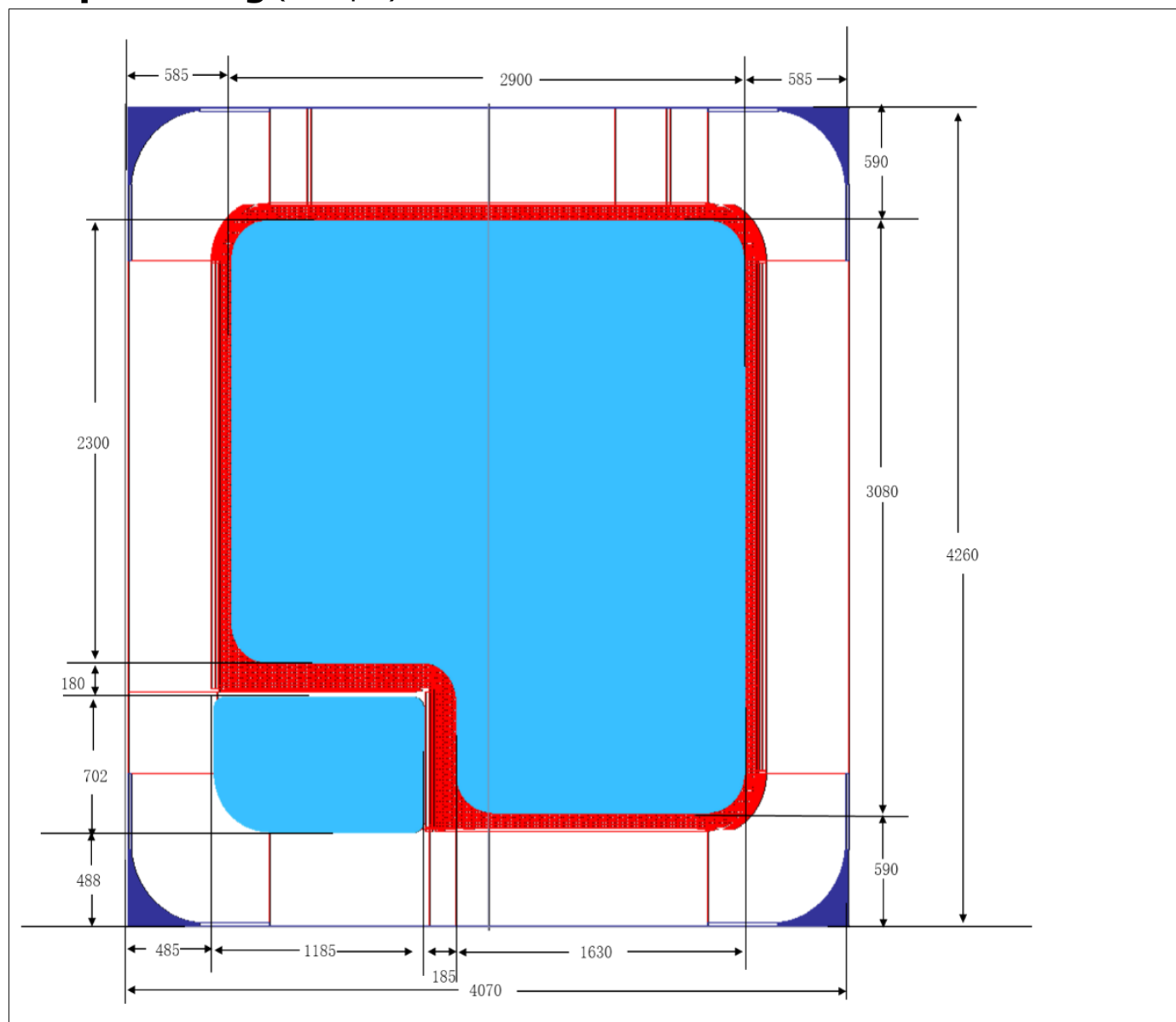
¹ Depending on thermal properties of assembly.

² Not subject to production test - verified by design/characterization.

³ Allowed number of short circuit: <1000; time between short circuit: >1s.

Electrical Characteristic ¹

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Collector-emitter saturation voltage	$V_{CE(sat)}$	$V_{GE}=15V, I_C=15A, T_{vj}=150^{\circ}C$	-	2.25	-	V
Input capacitance	C_{ies}	$V_{CE}=25V$	-	965	-	pF
Reverse transfer capacitance	C_{res}	$V_{GE}=0V, f=1MHz, T_{vj}=25^{\circ}C$	-	18	-	pF

Chip Drawing (unit: μm)


¹ Not subject to production test - verified by design/characterization.

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