

1200V/ 40A FS IGBT (Preliminary)
Features :

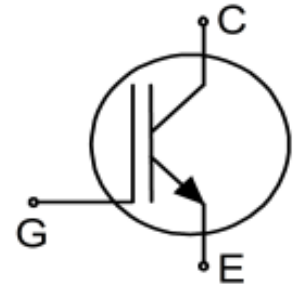
- 1200V Trench & Field stop Technology
- Low switching losses
- Positive temperature coefficient
- Easy paralleling

Recommended for :

- Low/ medium power modules

Application :

- Medium Power Drives
- Uninterruptible power supplies



Chip Type	VCE	Ic	Die Size	Package
-	1200V	40A	5.82 X 6.42 mm ²	Wafer

Mechanical Parameters

Die Size	5.82 X 6.42	mm ²
Gate pad size	0.803 X 1.201	
Wafer size	150	mm
Thickness	125	μm
Maximum possible chips per wafer	368 ea	
Pad metal	5um AlSiCu	
Backside metal	Al-Ti-Ni-Ag	
Die bond	Electrically conductive epoxy glue and solder	
Emitter wire bond	Al, < 500um	
Gate wire bond	Al, < 130um	
Recommended Storage environment	Store in original container, in dry nitrogen, in dark environment, <6 months at an ambient temperature of 23°C	

Maximum Rating

Parameter	Symbol	Value	Unit
Collector-emitter voltage, $T_j=25^\circ\text{C}$	V_{CE}	1200	V
DC collector current, limited by $T_{j\max}$ ¹	I_C	40	A
Pulsed collector current, t_p limited by $T_{j\max}$ ²	$I_{C,puls}$	80	A
Gate-emitter voltage	V_{GE}	± 30	V
Virtual junction operating temperature	T_{VJ}	-40 to 150	$^\circ\text{C}$

Static Characteristics (tested on wafer), $T_j=25^\circ\text{C}$

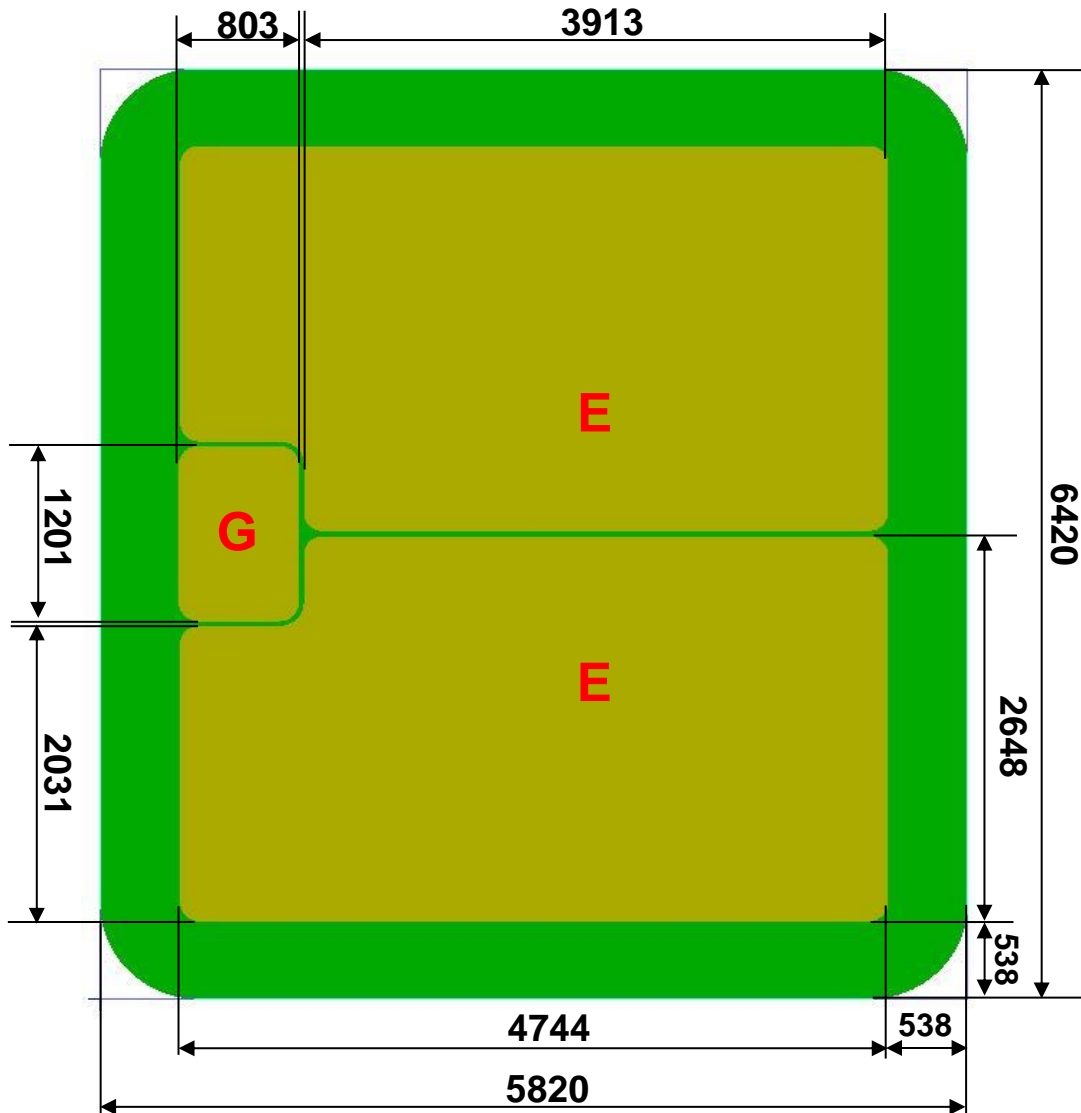
Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
Collector-emitter breakdown voltage	$V_{(BR)CES}$	$V_{GE}=0V, I_C=1.0mA$	1200	-	-	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$V_{GE}=15V, I_C=40A$	1.30	1.95	2.40	
Gate-emitter threshold voltage	$V_{GE(th)}$	$I_C=1.0mA, V_{GE}=V_{CE}$	5.1	-	6.7	
Zero gate voltage collector current	I_{CES}	$V_{CE}=1200V, V_{GE}=0V$	-	-	1	μA
Gate-emitter leakage current	I_{GES}	$V_{CE}=0V, V_{GE}=30V$	-	-	100	nA

¹ Depending on thermal properties on assembly.

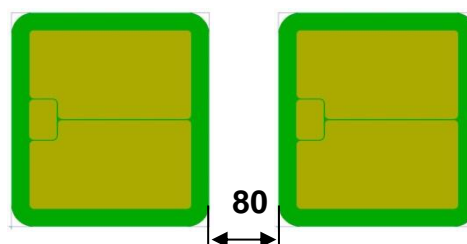
² Not subject to production test - verified by design/ characterization.

Chip Drawing :

Die-Size 5820 um X 6420 um



Scribe Line 80 um



E = Emitter

G = Gate