



# CCGW5T75S

CHONG QING CLOUDCHILD TECHNOLOGY CO.,LTD

## IGBT Chip

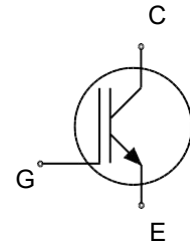
Quality Requirement Category:Automotive

### Features:

- 650V Trench & Field Stop technology
- Low conduction and switching losses
- $V_{CEsat}$  positive temperature coefficient
- Easy paralleling

### Applications:

- Motor drives
- Home appliance applications



Chip Type	$V_{CE}$	$I_{Cn}$	Die Size	Package
CCGW5T75S	650V	5A	1.8 x 2.5 mm <sup>2</sup>	wafer

### Mechanical Parameters

Die size	1.8 x 2.5		mm <sup>2</sup>
Emitter pad size	See chip drawing		
Gate pad size	See chip drawing		
Area total	4.5		
Thickness	65		μm
Scribe line	100 x 100		μm
Wafer size	200		mm
Max.possible chips per wafer	6187		
Pad metal	4μm AlSiCu		
Backside metal	1.4μm Al/Ti/Ni/Ag		
Storage environment	For original and sealed MBB bags	Humidity ≤25%RH, Temperature 18°C to 25°C, ≤6 months	

### Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-emitter voltage, $T_J=25^\circ\text{C}$	$V_{CE}$	650	V
DC collector current limited by $T_{jmax}$	$I_C$	5 <sup>1)</sup>	A
Pulsed collector current, $t_p$ limited by $T_{jmax}$	$I_{cpuls}$	10	A



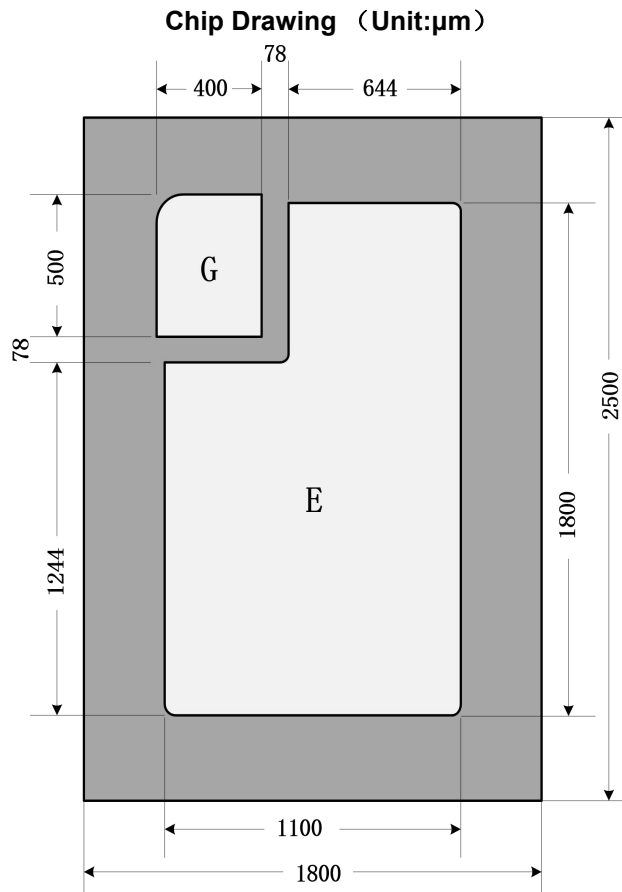
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Gate-emitter voltage	$V_{GE}$	$\pm 20$	V
Junction temperature	$T_j$	-55 to +175	$^{\circ}\text{C}$
Short circuit data $V_{GE} = 15\text{V}$ , $V_{CC} = 350\text{V}$ , $T_j = 150^{\circ}\text{C}$	$t_{SC}$	5	$\mu\text{s}$

<sup>1)</sup> depending on thermal properties of assembly

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

Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
Collector-emitter breakdown voltage	$V_{(BR)CES}$	$V_{GE}=0\text{V}$ , $I_C=100\mu\text{A}$	650			V
Collector-emitter saturation voltage	$V_{CEsat}$	$V_{GE}=15\text{V}$ $I_C=5\text{A}$	25 $^{\circ}\text{C}$	1.4	1.8	
			150 $^{\circ}\text{C}$	1.6		
Gate-emitter threshold voltage	$V_{GE(th)}$	$I_C=100\mu\text{A}$ , $V_{GE}=V_{CE}$	5.0	5.8	7.0	
Zero gate voltage collector current	$I_{CES}$	$V_{CE}=650\text{V}$ , $V_{GE}=0\text{V}$			100	$\mu\text{A}$
Gate-emitter leakage current	$I_{GES}$	$V_{CE}=0\text{V}$ , $V_{GE}=\pm 20\text{V}$			200	nA
Integrated gate resistor	$r_G$			2		$\Omega$





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Date of change	Rev #	revise content
2022/12/01	A/0	/