

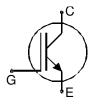
SIGC07T60NC

IGBT Chip in NPT-technology

FEATURES:

- 600V NPT technology
- 100µm chip
- positive temperature coefficient
- easy paralleling

- This chip is used for:
- IGBT-Modules
- Applications:
- drives



Chip Type	V _{CE}	I _{Cn}	Die Size	Package	Ordering Code
SIGC07T60NC	600V	6A	2.6 x 2.6 mm ²	sawn on foil	Q67050-A4134- A001

MECHANICAL PARAMETER:

Raster size	2.6 x 2.6	mm ²				
Area total / active	6.76 / 4.3					
Emitter pad size	1.11 x 1.78					
Gate pad size	0.5 x 0.7					
Thickness	100	μm				
Wafer size	150	mm				
Flat position	0	deg				
Max.possible chips per wafer	2249					
Passivation frontside	Photoimide	Photoimide				
Emitter metallization	3200 nm Al Si 1%					
Collector metallization	1400 nm Ni Ag –system suitable for epoxy and soft solder die bonding					
Die bond	electrically conductive glue or solder					
Wire bond	AI, ≤500μm					
Reject Ink Dot Size	Ø 0.65mm ; max 1.2mm					
Recommended Storage Environment	store in original container, in dry nitrogen, < 6 month at an ambient temperature of 23°C					



MAXIMUM RATINGS:

Parameter	Symbol	Value	Unit
Collector-emitter voltage, Tj=25 °C	V _{CE}	600	V
DC collector current, limited by T _{jmax}	I _C	1)	А
Pulsed collector current, t_p limited by T_{jmax}	I _{cpuls}	18	А
Gate emitter voltage	V _{GE}	±20	V
Operating junction and storage temperature	T _j , T _{stg}	-55 +150	°C

¹⁾ depending on thermal properties of assembly

STATIC CHARACTERISTICS (tested on chip), T_j =25 °C, unless otherwise specified:

Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
Collector-emitter breakdown voltage	V _{(BR)CES}	V_{GE} =0V, I _C =500 μ A	600			
Collector-emitter saturation voltage	V _{CE(sat)}	V_{GE} =15V, I _C =6A	1.7	2.0	2.5	V
Gate-emitter threshold voltage	V _{GE(th)}	$I_C=200\mu A, V_{GE}=V_{CE}$	4.5	5.5	6.5	
Zero gate voltage collector current	I _{CES}	V_{CE} =600V, V_{GE} =0V			0.5	μΑ
Gate-emitter leakage current	I _{GES}	V_{CE} =0V, V_{GE} =20V			120	nA

DYNAMIC CHARACTERISTICS (tested at component):

Parameter	Symbol	Conditions	Value			Unit
ralameter			min.	typ.	max.]
Input capacitance	Ciss	V _{CE} =25V,		222		pF
Output capacitance	Coss	$V_{\rm GE}=0V$,		-		
Reverse transfer capacitance	Crss	<i>f</i> =1MHz		20		1

SWITCHING CHARACTERISTICS (tested at component), Inductive Load:

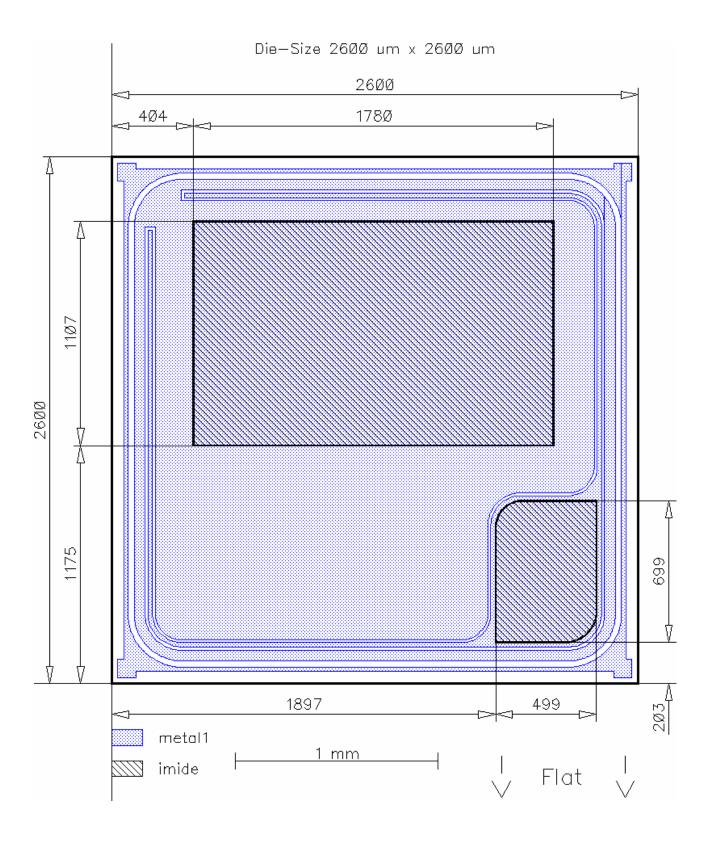
Parameter	Symbol	Conditions ²⁾	Value			Unit
			min.	typ.	max.	
Turn-on delay time	t _{d(on)}	<i>T</i> _j =125°C <i>V</i> _{CC} =300V		21		ns
Rise time	t _r	/ _C =6A		8		
Turn-off delay time	$t_{d(off)}$	$V_{\rm GE}=\pm 15 m V$ $R_{\rm G}=54 \Omega$		110		
Fall time	t _f	71G-0422		25		

²⁾ values also influenced by parasitic L- and C- in measurement and package.





CHIP DRAWING:





FURTHER ELECTRICAL CHARACTERISTICS:

This chip data sheet refers to the device data sheet

Description:

AQL 0,65 for visual inspection according to failure catalog

Electrostatic Discharge Sensitive Device according to MIL-STD 883

Test-Normen Villach/Prüffeld

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