



# IDC08S60C

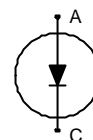
## 2<sup>nd</sup> generation thinQ!<sup>TM</sup> SiC Schottky Diode

### FEATURES:

- Revolutionary semiconductor material - Silicon Carbide
- Switching behavior benchmark
- No reverse recovery
- No temperature influence on the switching behavior
- No forward recovery
- High surge current capability

### Applications:

- SMPS, PFC, snubber



Chip Type	V <sub>BR</sub>	I <sub>F</sub>	Die Size	Package
IDC08S60C	600V	8A	1.658 x 1.52 mm <sup>2</sup>	sawn on foil

### MECHANICAL PARAMETER:

Raster size	1.658 x 1.52	mm
Anode pad size	1.421 x 1.283	mm
Area total / active	2.52 / 1.95	mm <sup>2</sup>
Thickness	355	µm
Wafer size	75	mm
Flat position	0	deg
Max. possible chips per wafer	1443 pcs	
Passivation frontside	Photoimide	
Anode metalization	3200 nm Al	
Cathode metalization	1400 nm Ni Ag –system suitable for epoxy and soft solder die bonding	
Die bond	Electrically conductive glue or solder	
Wire bond	Al, ≤ 350µm	
Reject Ink Dot Size	∅ ≥ 0.3 mm	
Recommended Storage Environment	store in original container, in dry nitrogen, < 6 month at an ambient temperature of 23°C	



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## Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	$V_{RRM}$		600	V
DC blocking voltage	$V_{DC}$		600	
Continuous forward current limited by $T_{jmax}$	$I_F$		8	A
Surge non repetitive forward current sine halfwave	$I_{F,SM}$	$T_C=25^\circ C, t_P=10\text{ ms}$	59	
Repetitive peak forward current limited by $T_{jmax}$	$I_{F,RM}$	$T_C=100^\circ C, T_j=150^\circ C, D=0.1$	35	
Non-repetitive peak forward current	$I_{F,max}$	$T_C=25^\circ C, t_P=10\mu s$	264	
Operating junction and storage temperature	$T_j, T_{stg}$		-55...+175	°C

## Static Electrical Characteristics (tested on chip), $T_j=25^\circ C$ , unless otherwise specified

Parameter	Symbol	Conditions	Value			Unit
			min.	Typ.	max.	
Reverse current	$I_R$	$V_R=600V$ $T_j=25^\circ C$		1	100	$\mu A$
Diode forward voltage	$V_F$	$I_F=8A$ $T_j=25^\circ C$		1.5	1.7	V

## Dynamic Electrical Characteristics, at $T_j = 25^\circ C$ , unless otherwise specified, tested at component

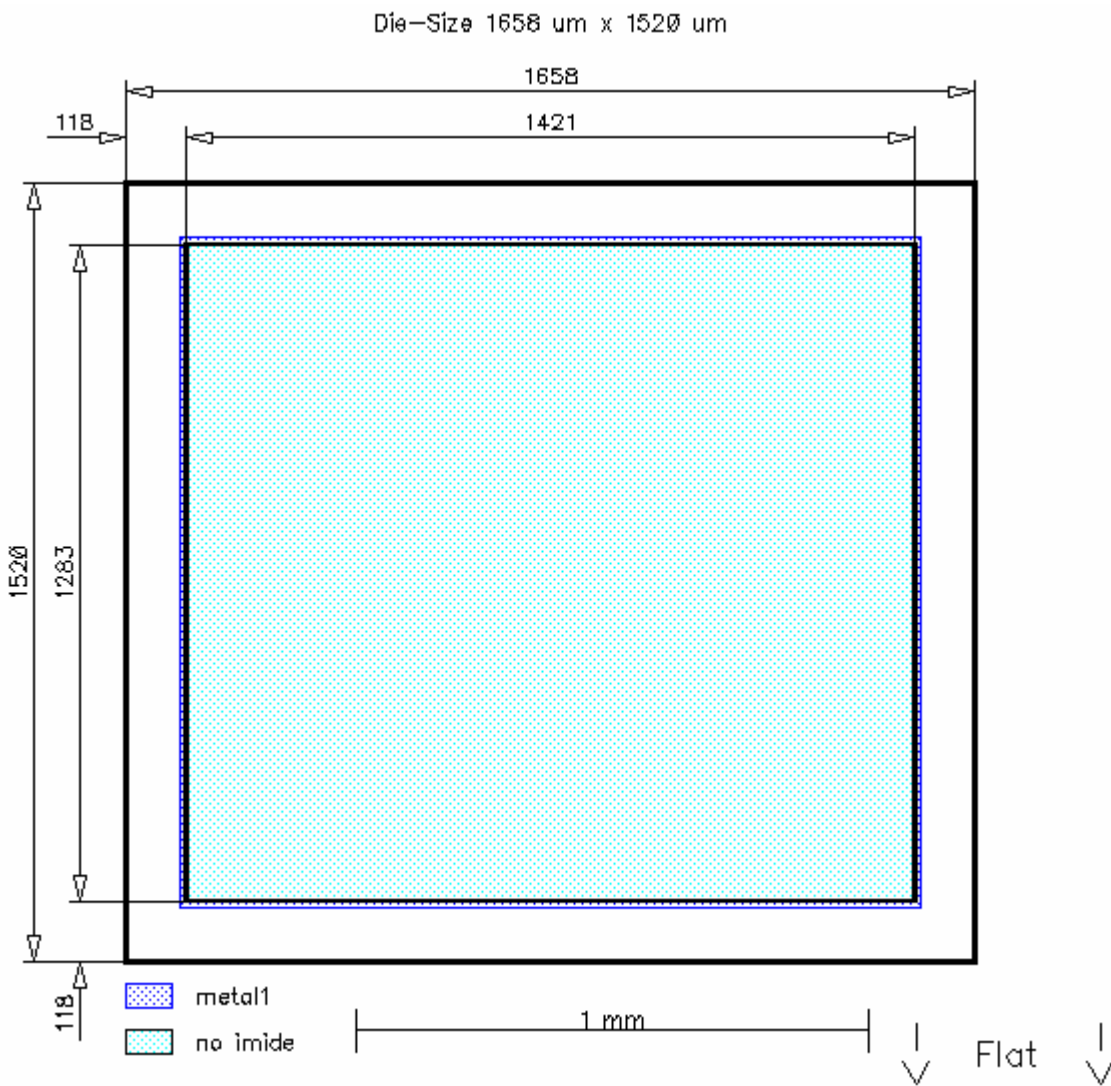
Parameter	Symbol	Conditions	Value			Unit
			min.	Typ.	max.	
Total capacitive charge	$Q_C$	$I_F \leq I_{F,max}$ $di/dt=200A/ms$ $V_R=400V$		19		nC
Switching time <sup>1)</sup>	$t_c$	$T_j = 150^\circ C$			<10	ns
Total capacitance	C	$f=1MHz$	$V_R=1V$		310	pF
			$V_R=300V$		50	
			$V_R=600V$		50	

<sup>1)</sup>  $t_c$  is the time constant for the capacitive displacement current waveform (independent from  $T_j$ ,  $I_{LOAD}$  and  $di/dt$ ), different from  $t_{rr}$  which is dependent on  $T_j$ ,  $I_{LOAD}$  and  $di/dt$ . No reverse recovery time constant  $t_{rr}$  due to absence of minority carrier injection



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## CHIP DRAWING:





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## FURTHER ELECTRICAL CHARACTERISTICS:

This chip data sheet refers to the device data sheet

INFINEON TECHNOLOGIES

IDT08S60C

## 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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