IXYS
A Littelfuse Technology

Diode Chip DTHP 64-065

Sonic

tentative

Circuit Diagram

Product Summary

Characteristics	Value	Unit
V_{RRM}	650	V
$I F_{(AV)}$	167	A
Chip Dimensions	8,91x7,22	mm
unsawn wafer	Contact Bare Die Sales	
sawn on foil	Yes	
in waffle pack	Yes	

Applications

- antiparallel diode for high frequency switching
- antisaturation diode
- snubber diode
- freewheeling diode in converters & motor control
- rectifiers in switch mode power supplies (SMPS)
- inductive heating & melting
- uninterruptible power supplies (UPS)
- ultrasonic cleaners & welders

Features

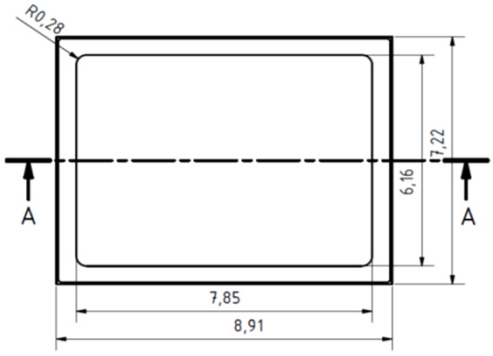
- fast, soft SONIC diode
- low forward voltage drop
- small temp. Coefficient
- low switching losses
- high ruggedness
- anode top
- Tvjm = 175°C

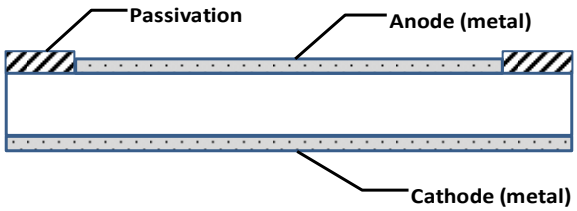
Mechanical Characteristic

Characteristic	Conditions		Value	Unit
Area active			49,20	mm²
Area total			64,33	mm²
Thickness			70	µm
Wafer size Ø			150	mm
Die Per Wafer			218	
Material			Si	
Passivation front side			SiN	
Metalisation front side		bondable:	Al	
Metalisation back side		solderable (only):	Al/Ti/NiV/Ag	
Recom. wire bonds (Al)	Anode	Number	8	
*= stitch bonds		Ø	380	µm
Reject ink dot size		Ø	0.4 - 1.0	mm
Recom. solder temp.			<300	°C
Recom. Storage environment	sawn on foil	in org. container, in dry nitrogen	<6	month
	unsawn wafer	in org. container, in dry nitrogen	<2	year
	in waffle pack	in org. container, in dry nitrogen	<2	year
Storage temp.			-40...40	°C

Dimensions

All dimensions in mm





IXYS A Littelfuse Technology

Diode Chip DTHP 64-065

Sonic tentative

Electrical Parameters

Symbol	Conditions		Value			Unit
			Min	Typ	Max	
Static Characteristics						
I_R	$V = V_{RRM}$	Tvj = 25°C			100	µA
		Tvj = 150°C		3		mA
V_F	If = 200A	Tvj = 25°C		1,40	1,60	V
		Tvj = 150°C		1,35		V
V_{F0}	For power loss calculations only				1	V
r_F		Tvj = 175°C			2,5	mΩ
T_{VJ}			-55		175	°C
$I_{F(AV)}$ *	DC	Tc = 80°C		167		A
I_{FSM} *	V = 0V	Tvj = 45°C			800	A
R_{thJC} *	DC current				0,4	K/W
Dynamic Characteristics						
Q_{rr}	V = 300V If = 200A	Tvj = 25°C dIf/dt = 3000A/µs		-		µC
I_{RM}				-		A
t_{rr}				-		ns
E_{rec}				-		mJ
Q_{rr}	V = 300V If = 200A	Tvj = 150°C dIf/dt = 3000A/µs		12		µC
I_{RM}				120		A
t_{rr}				150		ns
E_{rec}				2,2		mJ

* Data according to assembled 380µm DCB

Data according to IEC 60747

Terms & Conditions of Use

The data contained in this product datasheet is exclusively intended for technically trained staff. The user will have to evaluate the suitability of the product for the intended application and the completeness of the product data with respect to his application. The specifications of our components may not be considered as an assurance of component characteristics. Should you require product information in excess of the data given in this product datasheet or which concerns the specific application of our product, please contact the sales office, which is responsible for you. Due to technical requirements our product may contain dangerous substances. For any information on the types in question please contact the sales office/partner, which is responsible for you.

Should you intend to use the product in aviation applications, in life or health endangering or life support applications, please notify. For any such applications we urgently recommend

- to perform joint risks and quality assessments;
- the conclusion of quality agreements;
- to establish joint measures to ensure application specific product capabilities and notify that IXYS may deliver dependant on the realisation of any such measures.