

Circuit Diagram



Product Summary

Characteristics	Value	Unit
V_{RRM}	1600	V
$I_{F(AV)}$	31	A
Chip Dimensions	4,45x4,45	mm
unsawn wafer	Yes	
sawn on foil	Yes	
in waffle pack	Yes	

Applications

- DC Power Supplies
- Field Supply for DC motors
- Battery DC Power Supplies
- Power Rectifiers

Features

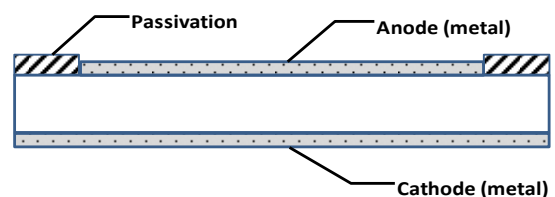
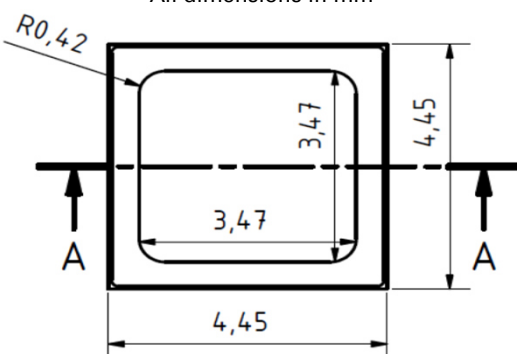
- glassivation
 - advanced planar technology
 - soft recovery rectifier diode
 - high commutation robustness
 - anode top
- $T_{vj} = 150^{\circ}\text{C}$

Mechanical Characteristic

Characteristic	Conditions		Value	Unit
Area active			12,50	mm ²
Area total			19,80	mm ²
Thickness			265	μm
Wafer size Ø			150	mm
Die Per Wafer			694	
Material			Si	
Passivation front side			Glass	
Metalisation front side		bondable:	Al	
Metalisation back side		solderable (only):	Al/Ti/NiV/Ag	
Recom. wire bonds (Al)	Anode	Number	3	
*= 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



Electrical Parameters

Symbol	Conditions	Value			Unit
		Min	Typ	Max	

Static Characteristics

V_R	$V = V_{RRM}$	$T_{vj} = 25^\circ\text{C}$			1600	V
I_R	$V = V_{RRM}$	$T_{vj} = 25^\circ\text{C}$			10	μA
		$T_{vj} = 150^\circ\text{C}$			0,1	mA
V_F	$I_f = 37\text{A}$	$T_{vj} = 25^\circ\text{C}$		1,10	1,20	V
		$T_{vj} = 150^\circ\text{C}$		1,04		V
V_{F0}	For power loss calculations only				0,90	V
r_F		$T_{vj} = 150^\circ\text{C}$			6,7	m Ω
T_{vj}			-40		150	$^\circ\text{C}$
$I_{F(AV)}$ *	DC	$T_c = 100^\circ\text{C}$		31		A
R_{thJC} *	DC current				1,2	K/W
I_{FSM}	$T_{vj} = 45^\circ\text{C}$	$t = 10\text{ ms}$	(50) Hz , sine		400	A
	$V_R = 0\text{ V}$	$t = 8.3\text{ ms}$	(60) Hz , sine		420	A
	$T_{vj} = 150^\circ\text{C}$	$t = 10\text{ ms}$	(50) Hz , sine		340	A
	$V_R = 0\text{ V}$	$t = 8.3\text{ ms}$	(60) Hz , sine		360	A
I^2t	$T_{vj} = 45^\circ\text{C}$	$t = 10\text{ ms}$	(50) Hz , sine		800	A ² s
	$V_R = 0\text{ V}$	$t = 8.3\text{ ms}$	(60) Hz , sine		730	A ² s
	$T_{vj} = 150^\circ\text{C}$	$t = 10\text{ ms}$	(50) Hz , sine		570	A ² s
	$V_R = 0\text{ V}$	$t = 8.3\text{ ms}$	(60) Hz , sine		530	A ² s

* Data according to assembled 380 μm DCB

Data according to IEC 60747

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- 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.