

### Circuit Diagram



### Product Summary

Characteristics	Value	Unit
$V_{RRM}$	650	V
$I_{F(AV)}$	115	A
Chip Dimensions	8,65x4,96	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

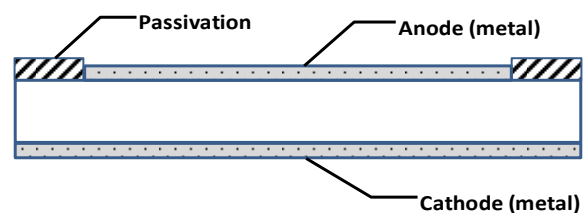
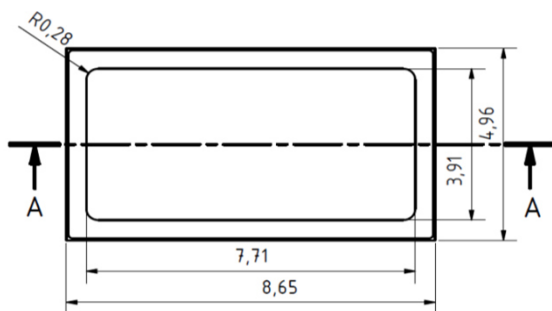
- fast, soft SONIC diode
- low forward voltage drop
- small temp. Coefficient
- low switching losses
- high ruggedness
- anode top
- $T_{vj} = 175^{\circ}\text{C}$

### Mechanical Characteristic

Characteristic	Conditions		Value	Unit
Area active			31,62	mm <sup>2</sup>
Area total			42,90	mm <sup>2</sup>
Thickness			70	μm
Wafer size Ø			150	mm
Die Per Wafer			337	
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



## Electrical Parameters

Symbol	Conditions	Value			Unit
		Min	Typ	Max	

### Static Characteristics

$I_R$	$V = V_{RRM}$	$T_{vj} = 25^{\circ}C$		100	$\mu A$
		$T_{vj} = 150^{\circ}C$		2	mA
$V_F$	$I_f = 150A$	$T_{vj} = 25^{\circ}C$	1,40	1,60	V
		$T_{vj} = 150^{\circ}C$	1,35		V
$V_{FO}$	For power loss calculations only			1	V
$r_F$		$T_{vj} = 175^{\circ}C$		3,3	m $\Omega$
$T_{VJ}$			-55	175	$^{\circ}C$
$I_{F(AV)}$ *	DC	$T_c = 80^{\circ}C$	115		A
$I_{FSM}$ *	$V = 0V$	$T_{vj} = 45^{\circ}C$		500	A
$R_{thJC}$ *	DC current			0,6	K/W

### Dynamic Characteristics

$Q_{rr}$				-	$\mu C$
$I_{RM}$	$V = 300V$	$T_{vj} = 25^{\circ}C$		-	A
$t_{rr}$	$I_f = 150A$	$dlf/dt = 2500A/\mu s$		-	ns
$E_{rec}$				-	mJ
$Q_{rr}$				9	$\mu C$
$I_{RM}$	$V = 300V$	$T_{vj} = 150^{\circ}C$		100	A
$t_{rr}$	$I_f = 150A$	$dlf/dt = 2500A/\mu s$		150	ns
$E_{rec}$				1,8	mJ

 \* Data according to assembled 380 $\mu m$  DCB

Data according to IEC 60747

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