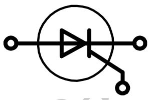
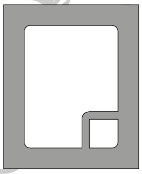
IXYS Thyristor Chip CWP 52-16

tentative

Type	Ag* Al*	V_{DRM} / V_{RRM}	V_{DSM} / V_{RSM} [V]	$I_{T(AV)}$ [A]	Chip Size [mm] x [mm]	Package Options
CWP 52-16	☐ ☑	**1600**	**1700**	**97**	**13.00 9.77**	sawn on foil ☑ unsawn wafer ☑ * in waffle pack ☑





*Frontside options

*Please contact IXYS chip sales

Mechanical Parameters

Area active		0.69	cm^2
Area total		1.27	cm^2
Wafer size Ø		150	mm
Thickness		380	µm
Material		Si	
Max. possible chips per wafer		110	
Passivation front side		Glassivation	
Metallization top side	solderable:	Ti / Ni / Ag *	
top side	bondable:	Al	
Recom. wire bonds (Al)	Cathode	Gate	
* = Stitchbonds Number / Ø [µm]	12* / 500	1 / 500	
Metallization backside	solderable (only):	Ti / Ni / Ag *	
Reject Ink Dot Size		Ø 0.4-1.0	mm
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
	T_{stg}	-40 ... 40	°C

*Sinterable top/bottom side on request

Features

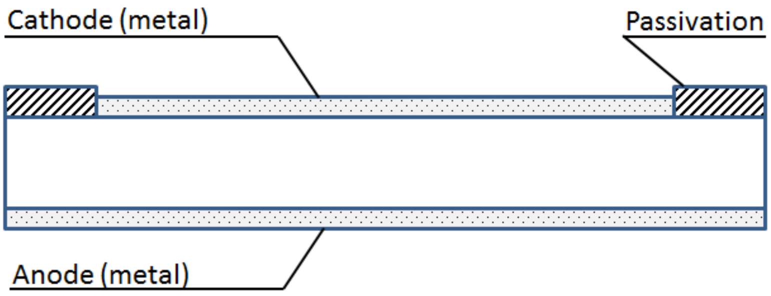
- planar passivated with guardring and channelstopper
- Planar front and back surface
- Non-structured anode contact on full area bottom side

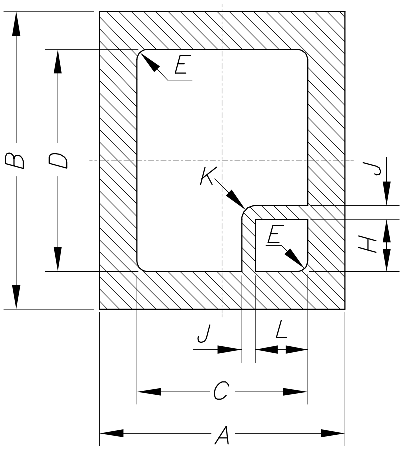
Applications

- DC motor control
- AC power control
- Softstart AC motor controller
- Light, heat and temperature control

Dimensions

A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	H [mm]	J [mm]	K [mm]	L [mm]
13.00	9.77	7.20	10.50	0.34	1.50	0.40	0.40	1.50





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Electrical parameters

Symbol	Conditions			Ratings			
				min.	typ.	max.	
I_R	V_D = Vr = Vrr	T_{VJ} = 25°C				0.1	mA
		T_{VJ} = 150°C				20	mA
V_T	I_T =200 A	T_{VJ} = 25 °C				1.38	V
		T_{VJ} = 150 °C				1.40	V
V_{T0}	For power-loss calculations only					0.9	V
r_T	T_{VJ} = 150 °C					2.40	mΩ
V_{GT}	V_D = 6 V	T_{VJ} = 25°C				1.5	V
		T_{VJ} = -40°C				1.6	V
I_{GT}	V_D = 6 V	T_{VJ} = 25°C		27		95	mA
		T_{VJ} = -40°C				200	mA
V_{GD}	T_{VJ} = 150 °C	V = ⅔ V_{DRM}				0.2	V
I_{GD}						10	mA
I_L	t_p =10 µs	T_{VJ} = 25°C	I_G = 0.45 A di$_G$/dt = 0.45 A/µs			450	mA
I_H	R_{GK} = ∞	T_{VJ} = 25°C	V_D = 6 V			200	mA
t_{gd}	V_D = ½ V_{DRM}	T_{VJ} = 25°C				2	µs
	I_G = 0.5 A	di$_G$ /dt =0.5 A/µ					
t_q	V_R = 100 V	I_T = 150 A	-di/dt = 10 A/µs		150		µs
	t_p = 200 µs	dv/dt = 20 V/µs	V_D = ⅔ Vdrm T_{VJ} = 150 °C				
(di/dt)$_{cr}$	repetitive	I_T = 150 A				150	A/µs
	non repetitive	I_T = 97 A				500	A/µs
	V = ⅔ V_{DRM}	T_{VJ} = 150 °C	di$_G$ /dt = 0.45 A/µs				
	I_G = 0.45 A	t_p = 200 µs	f = 50 Hz				
(dv/dt)$_{cr}$	T_{VJ} = 150 °C	V_{DR} = ⅔ V_{DRM}				1000	V/µs
	R $_{GK}$ = ∞	method 1 (linear voltage rise)					
P_{GM}	T_{VJ} = 150 °C	t_p = 30 µs				10	W
		t_p = 3E µs				5	W
P_{GAV}						0.5	W
V_{RGM}						10	V
T_{VJ}				-40		150	°C
$I_{T(AV)}$	T_C = 100 °C	180° rect.				97	A
	T_{VJ} = 150 °C	180° sine				tbd	A
I_{TSM} *	T_{VJ} = 45°C	t = 10 ms (50) Hz, sine				1500	A
	V_R = 0 V	t = 8.3 ms (60) Hz, sine				1700	A
	T_{VJ} = 150 °C	t = 10 ms (50) Hz, sine				1300	A
	V_R = 0 V	t = 8.3 ms (60) Hz, sine				1380	A
I^2t *	T_{VJ} = 45°C	t = 10 ms (50) Hz, sine				11250	$A s^2$
	V_R = 0 V	t = 8.3 ms (60) Hz, sine				11994	$A s^2$
	T_{VJ} = 150 °C	t = 10 ms (50) Hz, sine				8450	$A s^2$
	V_R = 0 V	t = 8.3 ms (60) Hz, sine				7903	$A s^2$
R_{thJC} *	DC current				0.38		K/W

* Data according to assembled product tbd

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 delivery dependent on the realization of any such measures.