


Type	Ag* Al*	V <sub>DRM</sub> / V <sub>RRM</sub>	V <sub>DSM</sub> / V <sub>RSM</sub> [V]	I <sub>T(AV)</sub> [A]	Chip Size [mm] x [mm]	Package Options
CWP 331-16	<input type="checkbox"/> <input checked="" type="checkbox"/>	1600	1700	210	18.20 18.2	sawn on foil <input checked="" type="checkbox"/> unsawn wafer <input checked="" type="checkbox"/> * in waffle pack <input checked="" type="checkbox"/>

\*Frontside options

\*Please contact IXYS chip sales



## Mechanical Parameters

Area active	2.31	cm <sup>2</sup>
Area total	3.31	cm <sup>2</sup>
Wafer size Ø	150	mm
Thickness	380	µm
Material	Si	
Max. possible chips per wafer	37	
Passivation front side	Glassivation	
Metallization top side	solderable: Ti / Ni / Ag *	
top side	bondable: Al	
Recom. wire bonds (Al)	Cathode	Gate
* = <i>Stitchbonds</i> Number / Ø [µm]	* / 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 <sub>stg</sub>	-40 ...	40 °C

### Features

- planar design (non-mesa)
- ultra rugged for easy assembly (flat backside)
- excellent long term stability
- very low leakage current
- very low forward voltage drop

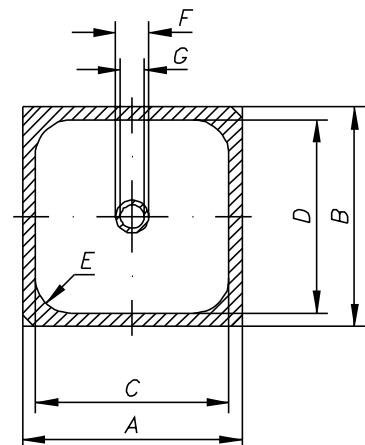
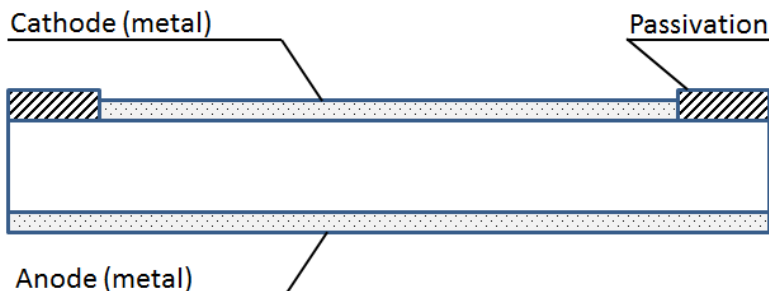
### Applications

- DC motor control
- AC power control
- Softstart AC motor controller
- Light, heat and temperature control
- Solid state relays
- Controlled rectifier circuits

\*Sinterable top/bottom side on request

## Dimensions

A	B	C	D	E	F	G
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
18.20	18.20	15.60	15.60	0.80	3.50	2.50



## Electrical parameters

Symbol	Conditions	Ratings		
		min.	typ.	max.
$I_R$	$V_D = V_r = V_{rr}$ $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 150^\circ\text{C}$			0.2 mA 40 mA
$V_T$	$I_T = 410\text{ A}$ $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 150^\circ\text{C}$			1.22 V 1.19 V
$V_{T0}$	For power-loss calculations only			0.86 V
$r_T$	$T_{VJ} = 150^\circ\text{C}$			0.80 m $\Omega$
$V_{GT}$	$V_D = 6\text{ V}$ $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$			2.5 V 2.6 V
$I_{GT}$	$V_D = 6\text{ V}$ $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$	42		145 mA 200 mA
$V_{GD}$	$T_{VJ} = 150^\circ\text{C}$ $V = \frac{2}{3} V_{DRM}$			0.2 V
$I_{GD}$				10 mA
$I_L$	$t_p = 30\ \mu\text{s}$ $T_{VJ} = 25^\circ\text{C}$ $I_G = 0.45\text{ A}$ $di_G/dt = 0.45\text{ A}/\mu\text{s}$			300 mA
$I_H$	$R_{GK} = \infty$ $T_{VJ} = 25^\circ\text{C}$ $V_D = 6\text{ V}$			200 mA
$t_{gd}$	$V_D = \frac{1}{2} V_{DRM}$ $T_{VJ} = 25^\circ\text{C}$ $I_G = 0.5\text{ A}$ $di_G/dt = 0.5\text{ A}/\mu$			2 $\mu\text{s}$
$t_q$	$V_R = 100\text{ V}$ $I_T = 260\text{ A}$ $-di/dt = 20\text{ A}/\mu\text{s}$ $t_p = 200\ \mu\text{s}$ $dv/dt = 20\text{ V}/\mu\text{s}$ $V_D = \frac{2}{3} V_{DRM}$ $T_{VJ} = 125^\circ\text{C}$			$\mu\text{s}$
$(di/dt)_{cr}$	repetitive $I_T = 500\text{ A}$ non repetitive $I_T = 210\text{ A}$ $V = \frac{2}{3} V_{DRM}$ $T_{VJ} = 150^\circ\text{C}$ $di_G/dt = 0.45\text{ A}/\mu\text{s}$ $I_G = 0.45\text{ A}$ $t_p = 200\ \mu\text{s}$ $f = 50\text{ Hz}$			100 A/ $\mu\text{s}$ A/ $\mu\text{s}$
$(dv/dt)_{cr}$	$T_{VJ} = 150^\circ\text{C}$ $V_{DR} = \frac{2}{3} V_{DRM}$ $R_{GK} = \infty$ method 1 (linear voltage rise)			1000 V/ $\mu\text{s}$
$P_{GM}$	$T_{VJ} = 150^\circ\text{C}$ $t_p = 30\ \mu\text{s}$ $t_p = 5E\ \mu\text{s}$			120 W 60 W
$P_{GAV}$				8 W
$V_{RGM}$				10 V
$T_{VJ}$		-40		150 $^\circ\text{C}$
$I_{T(AV)}$	$T_C = 100^\circ\text{C}$ 180° rect. $T_{VJ} = \text{ }^\circ\text{C}$ 180° sine			210 A tbd A
$I_{TSM}^*$	$T_{VJ} = 45^\circ\text{C}$ $t = 10\text{ ms}$ (50) Hz, sine $V_R = 0\text{ V}$ $t = 8.3\text{ ms}$ (60) Hz, sine			5500 A tbd A
	$T_{VJ} = 150^\circ\text{C}$ $t = 10\text{ ms}$ (50) Hz, sine $V_R = 0\text{ V}$ $t = 8.3\text{ ms}$ (60) Hz, sine			4700 A tbd A
$I^2t^*$	$T_{VJ} = 45^\circ\text{C}$ $t = 10\text{ ms}$ (50) Hz, sine $V_R = 0\text{ V}$ $t = 8.3\text{ ms}$ (60) Hz, sine			151250 A $\text{s}^2$ tbd A $\text{s}^2$
	$T_{VJ} = 150^\circ\text{C}$ $t = 10\text{ ms}$ (50) Hz, sine $V_R = 0\text{ V}$ $t = 8.3\text{ ms}$ (60) Hz, sine			110450 A $\text{s}^2$ tbd A $\text{s}^2$
$R_{thJC}^*$	DC current		0.2	K/W

\* Data according to assembled product

Data according to IEC 60747

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