

Type	Ag* Al*	$V_{DRM} / V_{RRM}$	$V_{DSM} / V_{RSM}$ [V]	$I_{T(AV)}$ [A]	Chip Size [mm] x [mm]	Package Options
CWP 69-22	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	2200	2300	141	13.40 13.4	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	1.07	cm <sup>2</sup>
Area total	1.80	cm <sup>2</sup>
Wafer size Ø	150	mm
Thickness	460	µm
Material	Si	
Max. possible chips per wafer	76	
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]	16* / 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

### 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

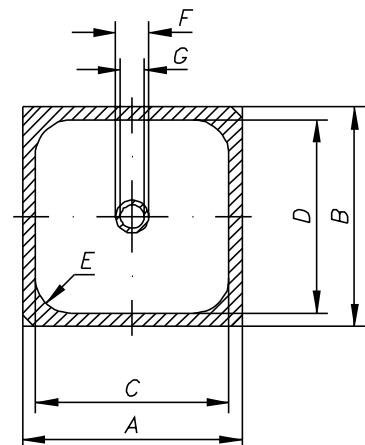
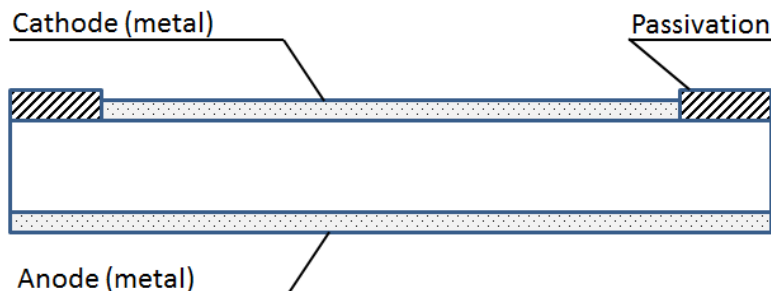
### Applications

- 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]
13.40	13.40	10.63	10.63	0.31	2.30	1.50



## Electrical parameters

Symbol	Conditions	Ratings		
		min.	typ.	max.
$I_R$	$V_D = V_r = V_{rr}$ $T_{VJ} = 25^\circ\text{C}$			0.3 mA
	$V_d = V_r = 1250\text{V}$ $T_{VJ} = 150^\circ\text{C}$			20 mA
$V_T$	$I_T = 300\text{ A}$ $T_{VJ} = 25^\circ\text{C}$			1.55 V
	$T_{VJ} = 150^\circ\text{C}$			1.66 V
$V_{T0}$	For power-loss calculations only			0.98 V
$r_T$	$T_{VJ} = 150^\circ\text{C}$			2.30 mΩ
$V_{GT}$	$V_D = 6\text{ V}$ $T_{VJ} = 25^\circ\text{C}$			1.5 V
	$T_{VJ} = -40^\circ\text{C}$			1.6 V
$I_{GT}$	$V_D = 6\text{ V}$ $T_{VJ} = 25^\circ\text{C}$	30		100 mA
	$T_{VJ} = -40^\circ\text{C}$			200 mA
$V_{GD}$	$T_{VJ} = 150^\circ\text{C}$ $V = \frac{2}{3} V_{DRM}$			0.25 V
$I_{GD}$				10 mA
$I_L$	$t_p = 30\ \mu\text{s}$ $T_{VJ} = 25^\circ\text{C}$ $I_G = 0.45\text{ A}$ $di_G/dt = 0.45\text{ A}/\mu\text{s}$			200 mA
$I_H$	$R_{GK} = \infty$ $T_{VJ} = 25^\circ\text{C}$ $V_D = 6\text{ V}$			150 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 $\mu\text{s}$
$t_q$	$V_R = 100\text{ V}$ $I_T = 165\text{ A}$ $-di/dt = 10\text{ A}/\mu\text{s}$ $t_p = 200\ \mu\text{s}$ $dv/dt = 20\text{ V}/\mu\text{s}$ $V_D = \frac{2}{3} V_{DRM}$ $T_{VJ} = 125^\circ\text{C}$			185 $\mu\text{s}$
$(di/dt)_{cr}$	repetitive $I_T = 250\text{ A}$			150 A/ $\mu\text{s}$
	non repetitive $I_T = 141\text{ A}$			500 A/ $\mu\text{s}$
	$V = \frac{2}{3} V_{DRM}$ $T_{VJ} = 150^\circ\text{C}$ $di_G/dt = 0.45\text{ A}/\mu\text{s}$			
	$I_G = 0.45\text{ A}$ $t_p = 200\ \mu\text{s}$ $f = 50\text{ Hz}$			
$(dv/dt)_{cr}$	$T_{VJ} = 150^\circ\text{C}$ $V_{DR} = \frac{2}{3} V_{DRM}$			1000 V/ $\mu\text{s}$
	$R_{GK} = \infty$ method 1 (linear voltage rise)			
$P_{GM}$	$T_{VJ} = 150^\circ\text{C}$ $t_p = 30\ \mu\text{s}$			10 W
	$t_p = 3\text{E } \mu\text{s}$			5 W
$P_{GAV}$				0.5 W
$V_{RGM}$				10 V
$T_{VJ}$		-40		150 $^\circ\text{C}$
$I_{T(AV)}$ *	$T_C = 100^\circ\text{C}$ 180° rect.			141 A
	$T_{VJ} = \text{ }^\circ\text{C}$ 180° sine			133 A
$I_{TSM}$ *	$T_{VJ} = 45^\circ\text{C}$ $t = 10\text{ ms}$ (50) Hz, sine			1700 A
	$V_R = 0\text{ V}$ $t = 8.3\text{ ms}$ (60) Hz, sine			1800 A
	$T_{VJ} = 150^\circ\text{C}$ $t = 10\text{ ms}$ (50) Hz, sine			1480 A
	$V_R = 0\text{ V}$ $t = 8.3\text{ ms}$ (60) Hz, sine			1600 A
$I^2t$ *	$T_{VJ} = 45^\circ\text{C}$ $t = 10\text{ ms}$ (50) Hz, sine			14450 A $\text{s}^2$
	$V_R = 0\text{ V}$ $t = 8.3\text{ ms}$ (60) Hz, sine			13446 A $\text{s}^2$
	$T_{VJ} = 150^\circ\text{C}$ $t = 10\text{ ms}$ (50) Hz, sine			10952 A $\text{s}^2$
	$V_R = 0\text{ V}$ $t = 8.3\text{ ms}$ (60) Hz, sine			10624 A $\text{s}^2$
$R_{thJC}$ *	DC current		0.22	K/W

\* Data according to assembled product MCC 94

Data according to IEC 60747

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