


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 55-16	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	1600	1700	90	12.30 12.3	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	0.89	cm <sup>2</sup>
Area total	1.51	cm <sup>2</sup>
Wafer size Ø	150	mm
Thickness	380	µm
Material	Si	
Max. possible chips per wafer	89	
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]	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 <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

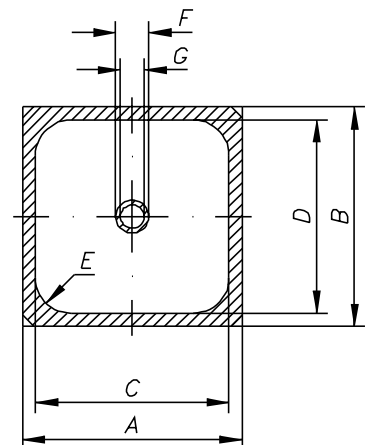
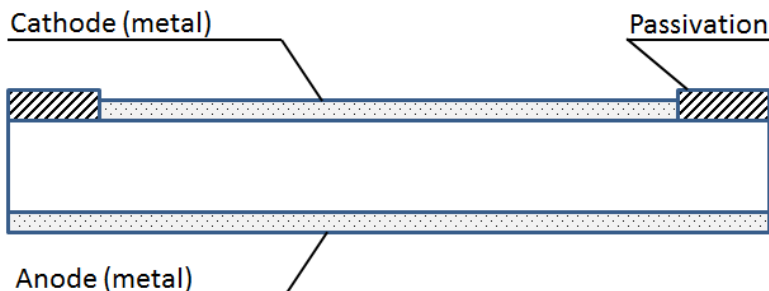
### Applications

- 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]
12.30	12.30	9.73	9.73	0.40	2.30	1.50



## Electrical parameters

Symbol	Conditions	Ratings		
		min.	typ.	max.
$I_R$ <sup>1)</sup>	$V_D = V_r = V_{rr}$ $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 150^\circ\text{C}$			0.1 mA 20 mA
$V_T$	$I_T = 200\text{ A}$ $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 150^\circ\text{C}$			1.29 V 1.30 V
$V_{T0}$ <sup>1)</sup>	For power-loss calculations only			0.88 V
$r_T$	$T_{VJ} = 150^\circ\text{C}$			1.90 mΩ
$V_{GT}$	$V_D = 6\text{ V}$ $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$			1.5 V 1.6 V
$I_{GT}$	$V_D = 6\text{ V}$ $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$			95 mA 200 mA
$V_{GD}$	$T_{VJ} = 150^\circ\text{C}$ $V = \frac{2}{3} V_{DRM}$			0.2 V
$I_{GD}$				10 mA
$I_L$	$t_p = 10\ \mu\text{s}$ $T_{VJ} = 25^\circ\text{C}$ $I_G = 0.45\text{ A}$ $di_G/dt = 0.45\text{ A}/\mu\text{s}$			450 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 μs
$t_q$	$V_R = 100\text{ V}$ $I_T = 90\text{ A}$ $-di/dt = 10\text{ A}/\mu\text{s}$ $t_p = 200\ \mu\text{s}$ $dv/dt = 20\text{ V}/\mu\text{s}$ $V_D = \frac{2}{3} V_{drM}$ $T_{VJ} = 125^\circ\text{C}$			150 μs
$(di/dt)_{cr}$	repetitive $I_T = 150\text{ A}$ non repetitive $I_T = 90\text{ A}$ $V = \frac{2}{3} V_{DRM}$ $T_{VJ} = 150^\circ\text{C}$ $di_G/dt = 0.45\text{ A}/\mu\text{s}$ $I_G = 0.45\text{ A}$ $t_p = 200\ \mu\text{s}$ $f = 50\text{ Hz}$			150 A/μs 500 A/μs
$(dv/dt)_{cr}$ <sup>1)</sup>	$T_{VJ} = 150^\circ\text{C}$ $V_{DR} = \frac{2}{3} V_{DRM}$ $R_{GK} = \infty$ method 1 (linear voltage rise)			1000 V/μs
$P_{GM}$	$T_{VJ} = 150^\circ\text{C}$ $t_p = 30\ \mu\text{s}$ $t_p = 3E\ \mu\text{s}$			10 W 5 W
$P_{GAV}$				0.5 W
$V_{RGM}$				10 V
$T_{VJ}$		-40		150 °C
$I_{T(AV)}$	$T_C = 100^\circ\text{C}$ 180° rect. $T_{VJ} = \text{ }^\circ\text{C}$ 180° sine			90 A 87 A
$I_{TSM}$ <sup>*</sup>	$T_{VJ} = 45^\circ\text{C}$ $t = 10\text{ ms}$ (50) Hz, sine $V_R = 0\text{ V}$ $t = 8.3\text{ ms}$ (60) Hz, sine			1900 A 2000 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			1700 A 1800 A
$I^2t$ <sup>*</sup>	$T_{VJ} = 45^\circ\text{C}$ $t = 10\text{ ms}$ (50) Hz, sine $V_R = 0\text{ V}$ $t = 8.3\text{ ms}$ (60) Hz, sine			18050 A s <sup>2</sup> 16600 A s <sup>2</sup>
	$T_{VJ} = 150^\circ\text{C}$ $t = 10\text{ ms}$ (50) Hz, sine $V_R = 0\text{ V}$ $t = 8.3\text{ ms}$ (60) Hz, sine			14450 A s <sup>2</sup> 13446 A s <sup>2</sup>
$R_{thJC}$ <sup>*</sup>	DC current		0.45	K/W

\* Data according to assembled product MCC 56

Data according to IEC 60747

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