IXYS Diode Chip DMLP 20-04A

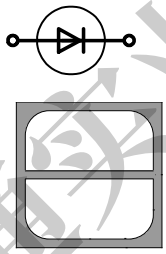
Platin FRED

tentative

Type	Ag* Al*	V_{RRM} [V]	I_F [A]	Chip Size [mm] x [mm]		Package
DMLP 20	☐ ☑	400	60	4.45	4.45	sawn on foil ☑ unsawn wafer ☑* in waffle pack ☑

*Frontside options

*Please contact IXYS chip sales



Mechanical Parameters

Area active		16.40	mm²
Area total		19.80	mm²
Wafer size Ø		150	mm
Thickness		250	µm
Material		Si	
Max. possible chips per wafer		780	
Passivation front side		Polyimide	
Metallization top side	bondable:	Al	
Metallization backside	solderable (only):	Al / Ti / Ni / Ag*	
Recom. wire bonds (Al)	Anode Number	4	
	Ø	380	µm
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:

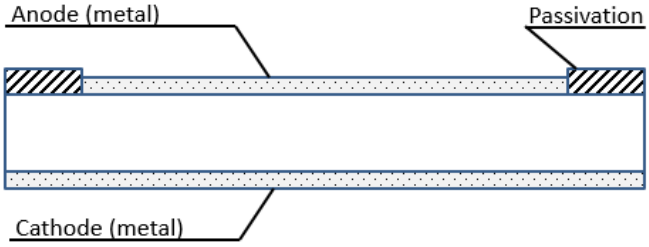
- Polyimide passivated
- Anode top
- Epitaxial diode
- Pt doped

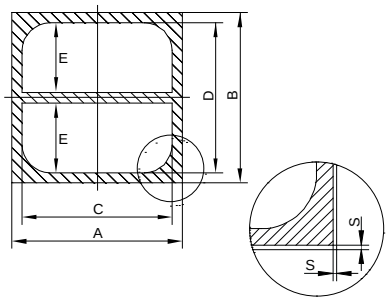
Applications

- Antiparallel diode for high frequency switching devices
- Antisaturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders
- PDP

Dimensions

A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]
4.45	4.45	4.05	4.05	1.92		n/a





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Electrical parameters

Symbol		Conditions			Ratings min.	typ.	max.	
I_R		$V = V_R = V_{RRM}$	T_{VJ} = 25°C				1	µA
			T_{VJ} = 150 °C				300	µA
V_F		I_F = 60 A	T_{VJ} = 25°C				1.15	V
			T_{VJ} = 150°C				1.07	V
V_{F0}		For power-loss calculations only					0.76	V
r_F		T_{VJ} 175 °C					2.3	mΩ
T_{VJ}					-40		175	°C
$I_{F(AV)}$	*	T_C = 125 °C	180° rect.	T_{VJ} = 175°C				A
I_{FSM}	*	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine				550	A
		V_R = 0 V	t = 8.3 ms (60 Hz), sine				600	A
		T_{VJ} = 175 °C	t = 10 ms (50 Hz), sine				460	A
		V_R = 0 V	t = 8.3 ms (60 Hz), sine				510	A
I^2t	*	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine				1510	A^2s
		V_R = 0 V	t = 8.3 ms (60 Hz), sine				1500	A s
		T_{VJ} = 175 °C	t = 10 ms (50 Hz), sine				1060	A^2s
		V_R = 0 V	t = 8.3 ms (60 Hz), sine				1080	A^2s
E_{AS}	*	I_{AS} = 9 A; L = 100 µH; T_{VJ} = 25°C; non repetitive					1510	mJ
I_{AR}	*	$V_A = 1.5 \cdot V_{RRM}$ typ.; f = 10 kHz; repetitive					1500	A
R_{thJC}	*	DC current					0.8	K/W
t_{rr}		V_R = 100 V;	I_F 60 A;	-di_F/dt 200 A/µs	T_{VJ} = 25°C	65		ns
I_{RM}		V_R = 100 V;	I_F = 60 A;	-di_F/dt 200 A/µs	T_{VJ} = 25°C	6.5		A

* Data according to assembled Chip

Data according to IEC 60747

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– to perform joint risk and quality assessments;

– 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.