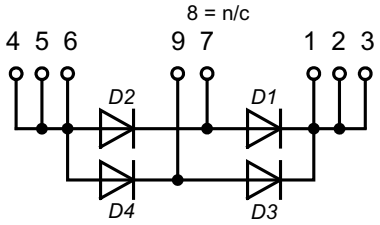
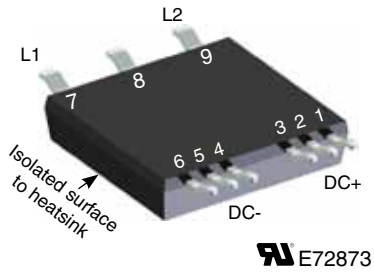
High Efficiency Standard Rectifier

Single Phase Rectifier Bridge

V_{RRM} = 1200 V
I_{DAV} = 124 A
V_F = 1.15 V





E72873

Diodes

Symbol	Conditions		Characteristic Values min.	typ.	max.	
V_{RRM}		T_{VJ} = 25°C			1200	V
I_R	V_R = 1200 V	T_{VJ} = 25°C			10	µA
		T_{VJ} = 150°C			0.1	mA
V_F	I_F = 50 A	T_{VJ} = 25°C			1.23	V
	I_F = 100 A				1.45	V
	I_F = 50 A	T_{VJ} = 150°C			1.15	V
	I_F = 100 A				1.44	V
I_{DAV}	*rectifier output current with:*					
	rect. d = 0.5 (per diode)				132	A
	sine 180° (per diode)	T_C = 80°C			124	A
V_{F0}	for power loss calculation only				0.75	V
r_F	T_{VJ} = 175°C				4.2	mΩ
R_{thJC}					1.0	K/W
R_{thJH}	with thermal transfer paste (IXYS test setup)			1.45	1.6	K/W
T_{VJ}			-55		175	°C
P_{tot}		T_C = 25°C			150	W
I_{FSM}	t = 10 ms; (50 Hz), sine	T_{VJ} = 45°C			400	A
	t = 8.3 ms; (60 Hz), sine	V_R = 0 V			430	A
	t = 10 ms; (50 Hz), sine	T_{VJ} = 150°C			350	A
	t = 8.3 ms; (60 Hz), sine	V_R = 0 V			375	A
I^2t	t = 10 ms; (50 Hz), sine	T_{VJ} = 45°C			800	A²s
	t = 8.3 ms; (60 Hz), sine	V_R = 0 V			780	A²s
	t = 10 ms; (50 Hz), sine	T_{VJ} = 150°C			610	A²s
	t = 8.3 ms; (60 Hz), sine	V_R = 0 V			570	A²s
C_J	V_R = 1200 V; f = 1 MHz	T_{VJ} = 25°C		13		pF

Features

- Planar passivated chips
- Very low leakage current
- Very low forward voltage drop
- Improved thermal behaviour

Applications

- Diode Bridge for main rectification

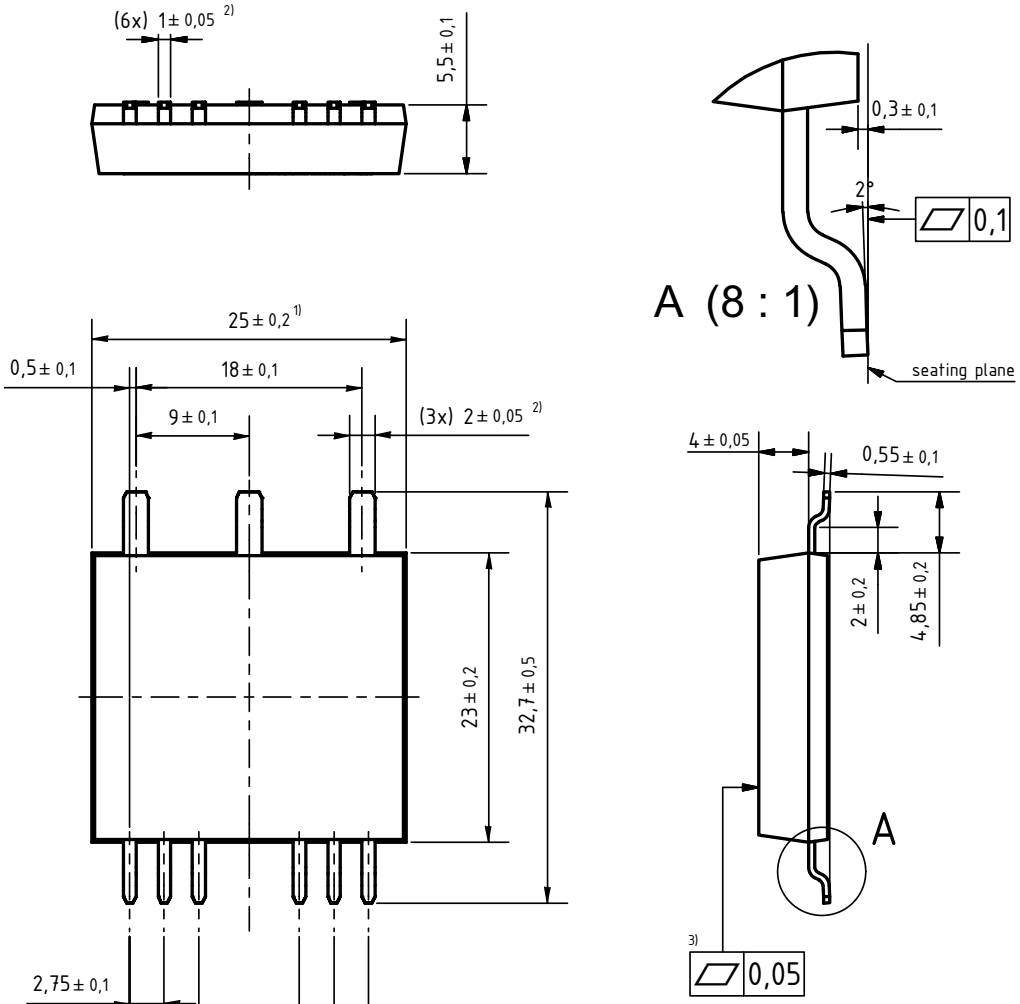
Package

- DCB isolated backside
- Isolation Voltage 3000 V
- Epoxy meets UL 94V-0
- RoHS compliant

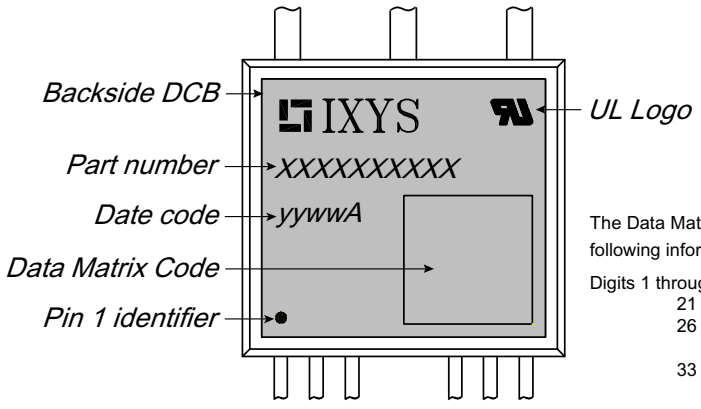
Component					
Symbol	**Conditions**	**Characteristic Values**			
		min.	**typ.**	**max.**	
I_{RMS}	wide pin			100	A
	standard pin			60	A
T_{stg}		-55		150	°C
Weight			8		g
F_C		40		130	N
V_{ISOL}	t = 1 second		3000		V
	t = 1 minute		2500		V
d_S, d_A	pin - pin	1.65			mm
d_S, d_A	pin - backside metal	4			mm

Ordering	Ordering Name	Marking on Product	Delivering Mode	Base Qty	Ordering Code
Standard	DLA100B1200LB-TRR	DLA100B1200LB	T&R	200	509901
	DLA100B1200LB	DLA100B1200LB	Blister	45	510245

Dimensions in mm
(1 mm = 0.0394“)



Notes:
1) potrusion may add 0.2 mm max. on each side
2) additional max. 0.05 mm per side by punching misalignement or overlap of dam bar or bending compression
3) DCB area 10 to 50 µm convex; position of DCB area in relation to plastic rim: ±25 µm (measured 2 mm from Cu rim)
4) terminal plating: 0.2 - 1 µm Ni + 10 - 25 µm Sn (gal v.) cutting edges may be partially free of plating



The Data Matrix Code contains the following information in 36 digits:

Digits 1 through 20: part number
21 to 25: date code (YYWWA)
26 to 31: assembly lot code
32: reserved for special information
33 to 36: may be used for subsequent module numbering within the assembly lot

Example: DLA100B1200LB000000001028A24597300000

20110118

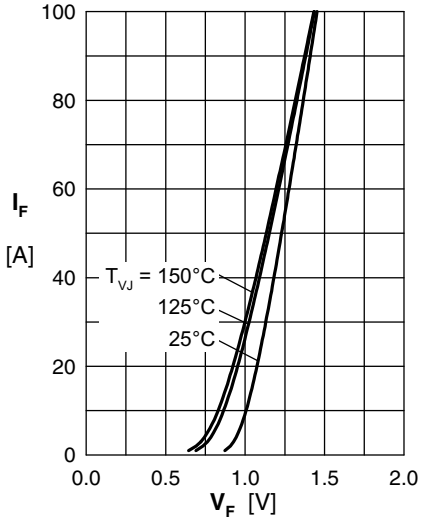


Fig. 1 Forward current versus voltage drop per diode

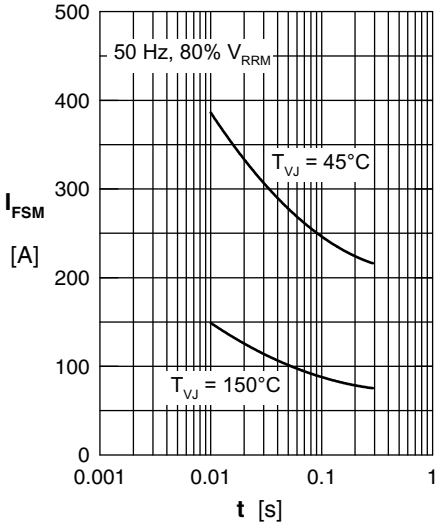


Fig. 2 Surge overload current

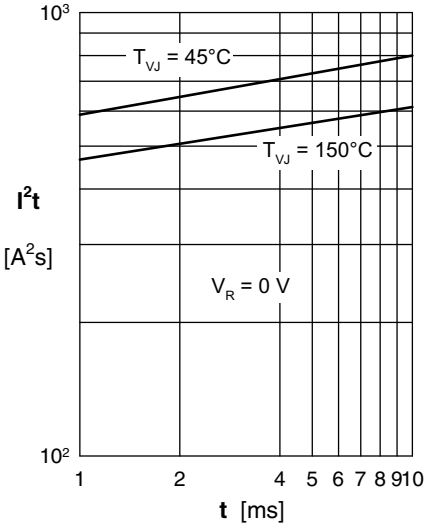


Fig. 3 I^2t versus time per diode

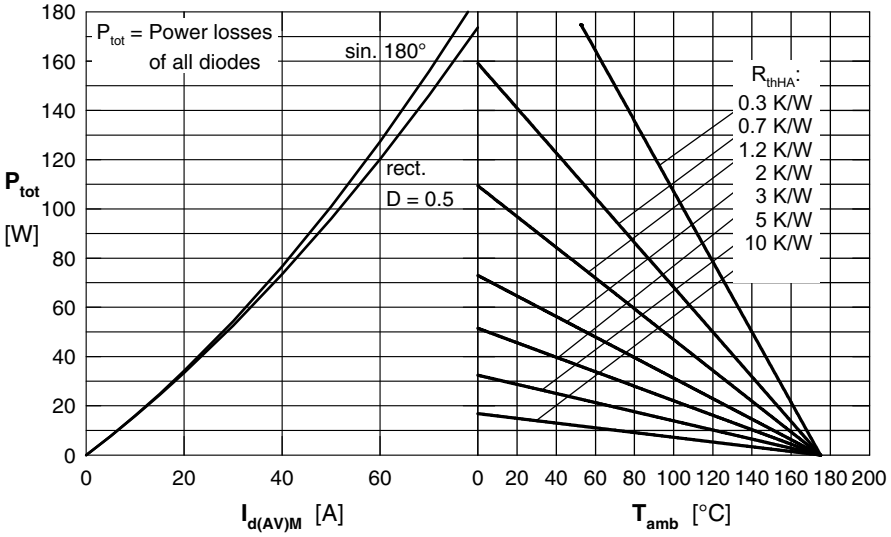


Fig. 4 Power dissipation vs. bridge output current and ambient temperature

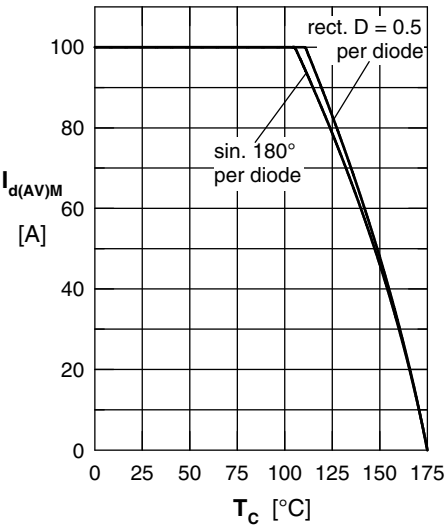


Fig. 5 Max. bridge output current vs. case temperature

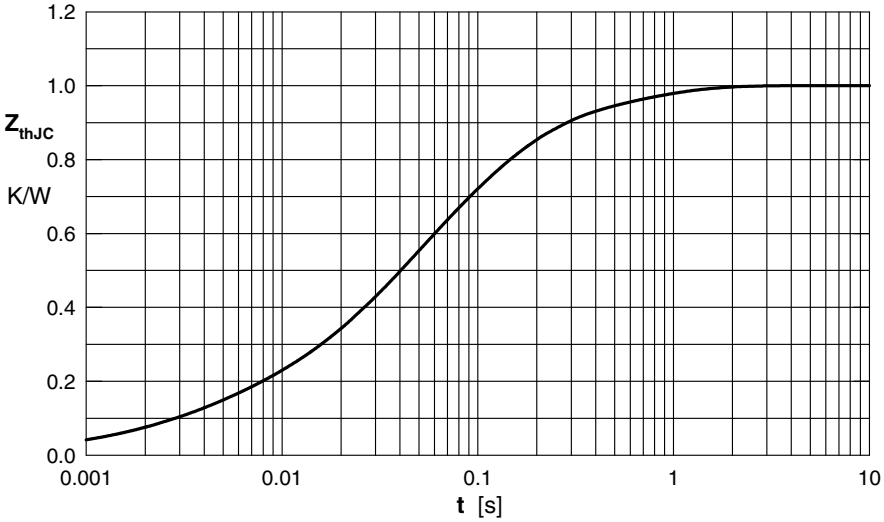


Fig. 6 Transient thermal impedance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi} [K/W]	t_i [s]
1	0.09	0.003
2	0.116	0.062
3	0.386	0.1
4	0.128	0.55

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