

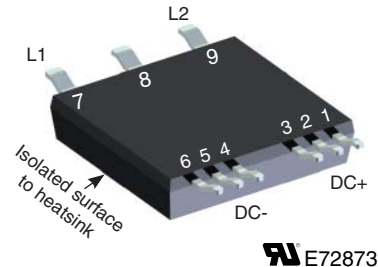
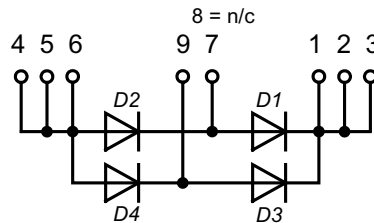
High Efficiency Standard Rectifier

Single Phase Rectifier Bridge

$$V_{RRM} = 1200 \text{ V}$$

$$I_{DAV} = 124 \text{ A}$$

$$V_F = 1.15 \text{ V}$$



Diodes					
Symbol	Conditions	Characteristic Values			
		min.	typ.	max.	
V_{RRM}	$T_{VJ} = 25^{\circ}\text{C}$			1200	V
I_R	$V_R = 1200 \text{ V}$ $T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 150^{\circ}\text{C}$			10 0.1	μA mA
V_F	$I_F = 50 \text{ A}$ $T_{VJ} = 25^{\circ}\text{C}$			1.23	V
	$I_F = 100 \text{ A}$			1.45	V
	$I_F = 50 \text{ A}$ $T_{VJ} = 150^{\circ}\text{C}$			1.15	V
	$I_F = 100 \text{ A}$			1.44	V
I_{DAV}	rectifier output current with: rect. d = 0.5 (per diode) sine 180° (per diode) $T_C = 80^{\circ}\text{C}$			132 124	A A
V_{F0} r_F	for power loss calculation only $T_{VJ} = 175^{\circ}\text{C}$			0.75 4.2	V $\text{m}\Omega$
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	$^{\circ}\text{C}$
P_{tot}	$T_C = 25^{\circ}\text{C}$			150	W
I_{FSM}	$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$ $T_{VJ} = 45^{\circ}\text{C}$			400	A
	$t = 8.3 \text{ ms}; (60 \text{ Hz}), \text{ sine}$ $V_R = 0 \text{ V}$			430	A
	$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$ $T_{VJ} = 150^{\circ}\text{C}$			350	A
	$t = 8.3 \text{ ms}; (60 \text{ Hz}), \text{ sine}$ $V_R = 0 \text{ V}$			375	A
I^2t	$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$ $T_{VJ} = 45^{\circ}\text{C}$			800	A^2s
	$t = 8.3 \text{ ms}; (60 \text{ Hz}), \text{ sine}$ $V_R = 0 \text{ V}$			780	A^2s
	$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$ $T_{VJ} = 150^{\circ}\text{C}$			610	A^2s
	$t = 8.3 \text{ ms}; (60 \text{ Hz}), \text{ sine}$ $V_R = 0 \text{ V}$			570	A^2s
C_J	$V_R = 1200 \text{ V}; f = 1 \text{ MHz}$ $T_{VJ} = 25^{\circ}\text{C}$		13		pF

Features

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

Applications

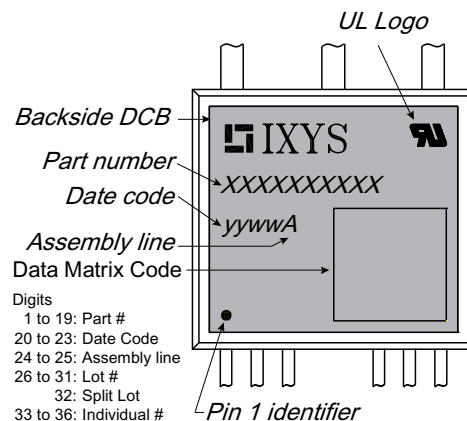
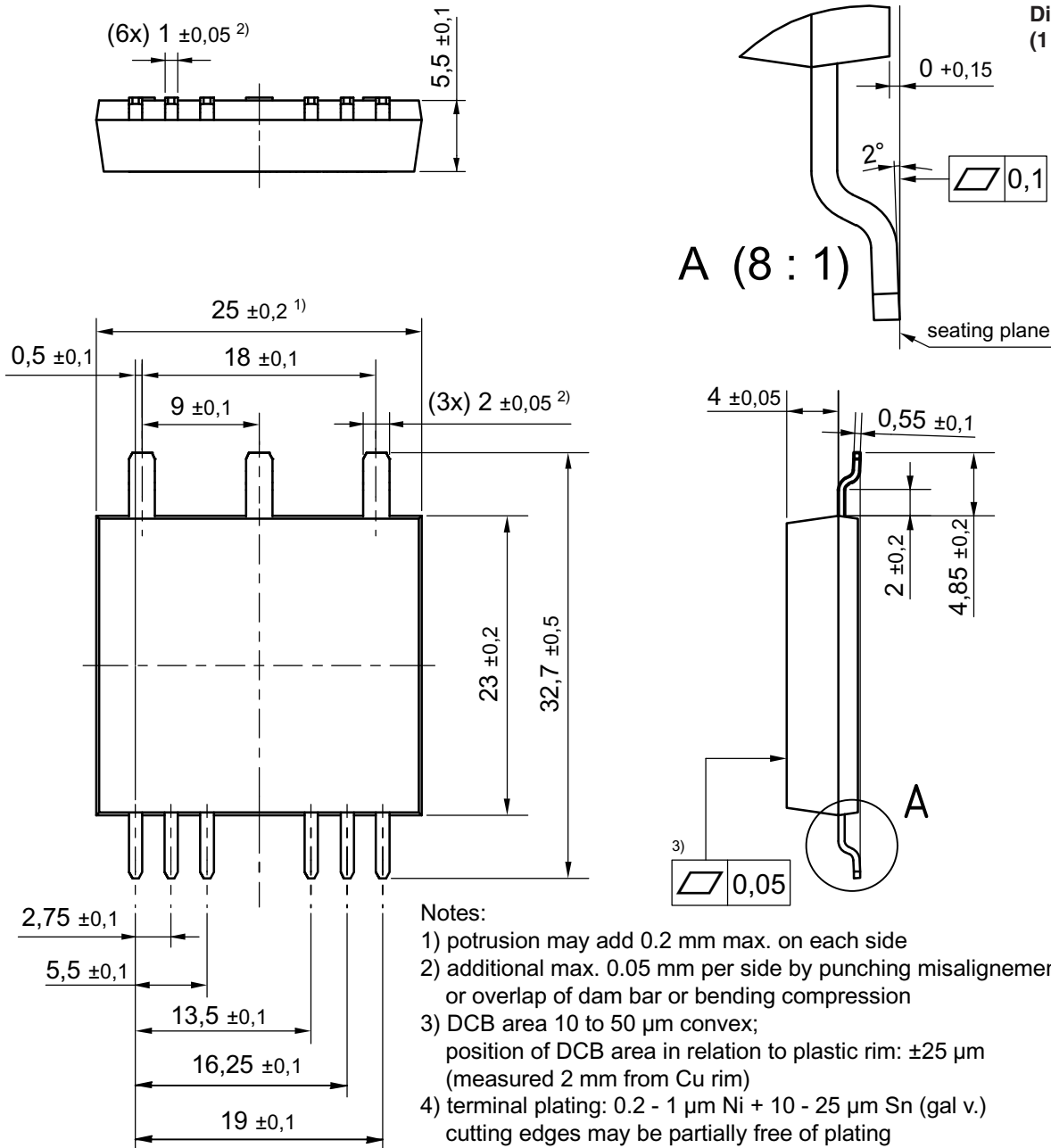
- Diode Bridge for main rectification

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



Example: DLA100B1200LB000000001028A24597300000

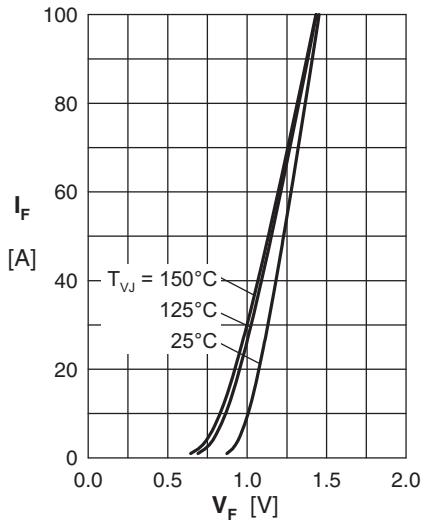


Fig. 1 Forward current versus voltage drop per diode

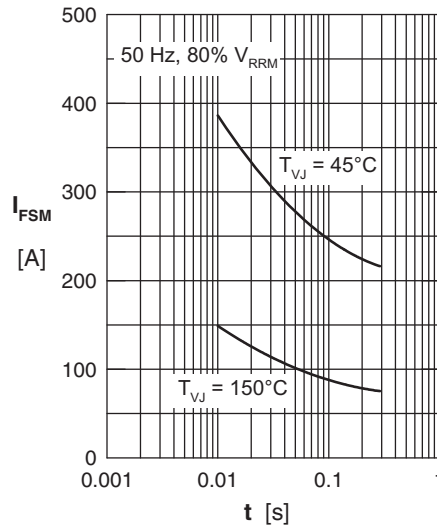


Fig. 2 Surge overload current

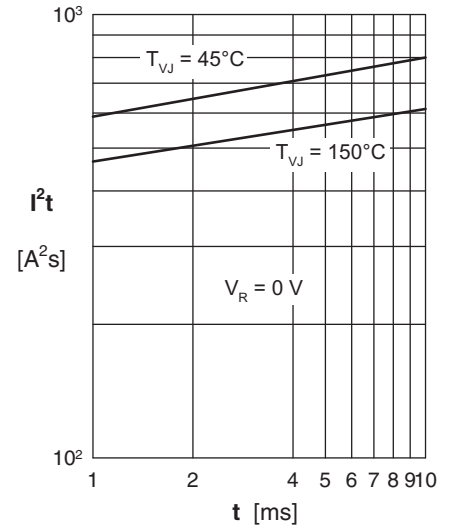


Fig. 3 I^2t versus time per diode

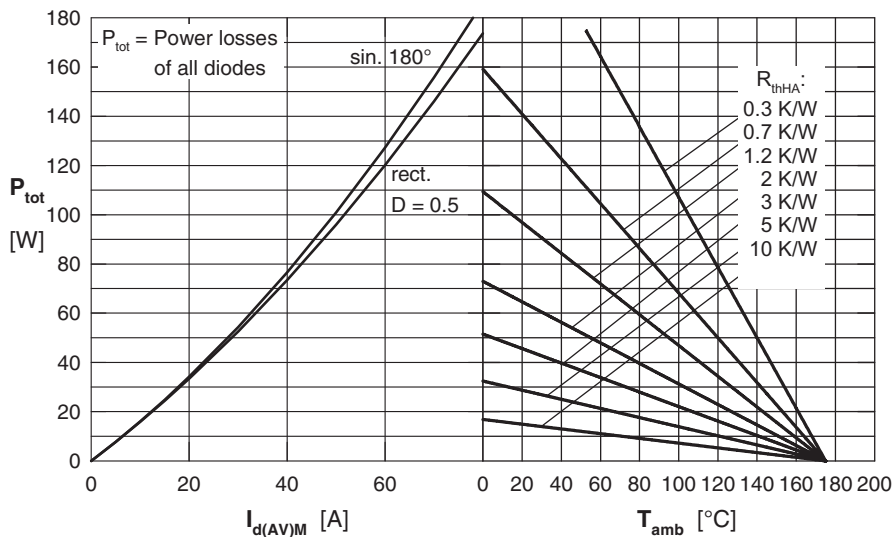


Fig. 4 Power dissipation vs. bridge output current and ambient temperature

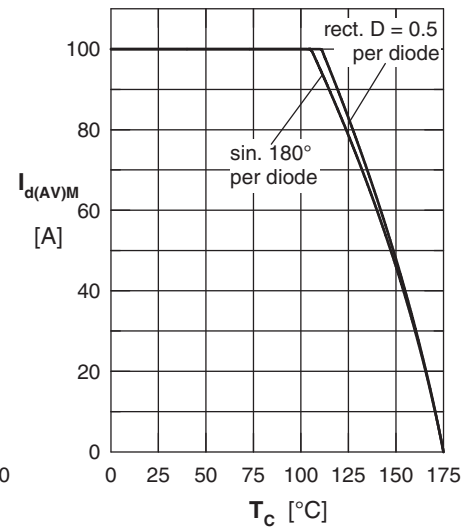


Fig. 5 Max. bridge output current vs. case temperature

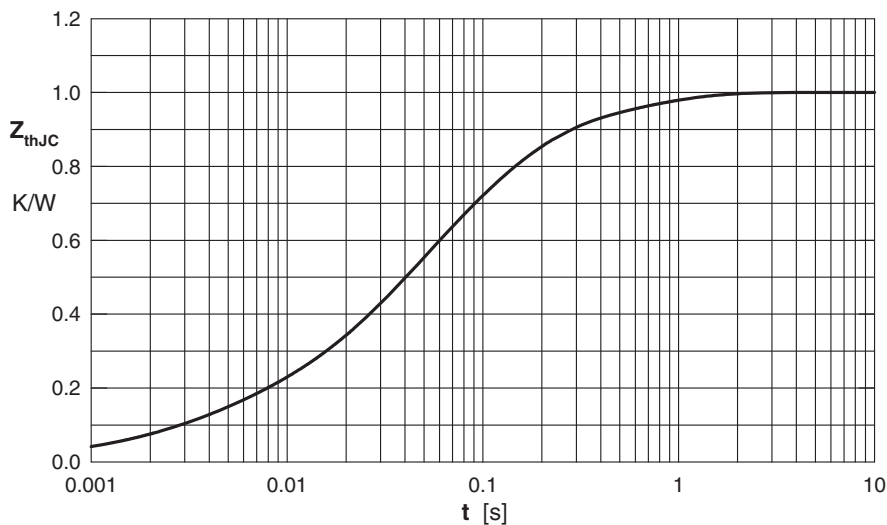


Fig. 6 Transient thermal impedance junction to case

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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