

Excellent Integrated System Limited

Stocking Distributor

Click to view price, real time Inventory, Delivery & Lifecycle Information:

[IXYS Corporation](#)
[DLA10IM800UC](#)

For any questions, you can email us directly:

sales@integrated-circuit.com



DLA10IM800UC

High Efficiency Standard Rectifier

V_{RRM} = 800 V

I_{FAV} = 10 A

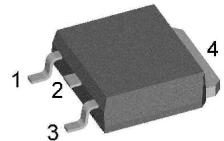
V_F = 1.16 V

Single Diode

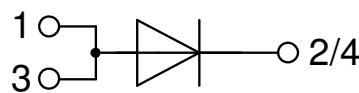
Part number

DLA10IM800UC

Marking on Product: MARLUI



Backside: cathode



Features / Advantages:

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

Applications:

- Diode for main rectification
- For single and three phase bridge configurations

Package: TO-252 (DPak)

- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0

Terms & Conditions of usage:

The data contained in this product data sheet is exclusively intended for technically trained staff. The user will have to evaluate the suitability of the product for the intended application and the completeness of the product data with respect to his application. The specifications of our components may not be considered as an assurance of component characteristics. The information in the valid application- and assembly notes must be considered. Should you require product information in excess of the data given in this product data sheet or which concerns the specific application of your product, please contact the sales office, which is responsible for you.

Due to technical requirements our product may contain dangerous substances. For information on the types in question please contact the sales office, which is responsible for you.

Should you intend to use the product in aviation, in health or live endangering or life support applications, please notify. For any such application we urgently recommend

- to perform joint risk and quality assessments;

- the conclusion of quality agreements;

- to establish joint measures of an ongoing product survey, and that we may make delivery dependent on the realization of any such measures.

Rectifier

Symbol	Definition	Conditions	Ratings			
			min.	typ.	max.	
V_{RSM}	max. non-repetitive reverse blocking voltage	$T_{VJ} = 25^\circ\text{C}$			900	V
V_{RRM}	max. repetitive reverse blocking voltage	$T_{VJ} = 25^\circ\text{C}$			800	V
I_R	reverse current	$V_R = 800 \text{ V}$ $V_R = 800 \text{ V}$	$T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 150^\circ\text{C}$		5 0.05	μA mA
V_F	forward voltage drop	$I_F = 10 \text{ A}$	$T_{VJ} = 25^\circ\text{C}$		1.22	V
		$I_F = 20 \text{ A}$			1.40	V
		$I_F = 10 \text{ A}$	$T_{VJ} = 150^\circ\text{C}$		1.16	V
		$I_F = 20 \text{ A}$			1.45	V
I_{FAV}	average forward current	$T_C = 145^\circ\text{C}$ rectangular	$T_{VJ} = 175^\circ\text{C}$		10	A
V_{F0} r_F	threshold voltage slope resistance } for power loss calculation only		$T_{VJ} = 175^\circ\text{C}$		0.84	V
					30	$\text{m}\Omega$
R_{thJC}	thermal resistance junction to case				2	K/W
R_{thCH}	thermal resistance case to heatsink			0.50		K/W
P_{tot}	total power dissipation		$T_C = 25^\circ\text{C}$		75	W
I_{FSM}	max. forward surge current	$t = 10 \text{ ms}; (50 \text{ Hz}), \text{sine}$	$T_{VJ} = 45^\circ\text{C}$		120	A
		$t = 8,3 \text{ ms}; (60 \text{ Hz}), \text{sine}$	$V_R = 0 \text{ V}$		130	A
		$t = 10 \text{ ms}; (50 \text{ Hz}), \text{sine}$	$T_{VJ} = 150^\circ\text{C}$		100	A
		$t = 8,3 \text{ ms}; (60 \text{ Hz}), \text{sine}$	$V_R = 0 \text{ V}$		110	A
I^2t	value for fusing	$t = 10 \text{ ms}; (50 \text{ Hz}), \text{sine}$	$T_{VJ} = 45^\circ\text{C}$		72	A^2s
		$t = 8,3 \text{ ms}; (60 \text{ Hz}), \text{sine}$	$V_R = 0 \text{ V}$		70	A^2s
		$t = 10 \text{ ms}; (50 \text{ Hz}), \text{sine}$	$T_{VJ} = 150^\circ\text{C}$		50	A^2s
		$t = 8,3 \text{ ms}; (60 \text{ Hz}), \text{sine}$	$V_R = 0 \text{ V}$		50	A^2s
C_J	junction capacitance	$V_R = 400 \text{ V}; f = 1 \text{ MHz}$	$T_{VJ} = 25^\circ\text{C}$	3		pF



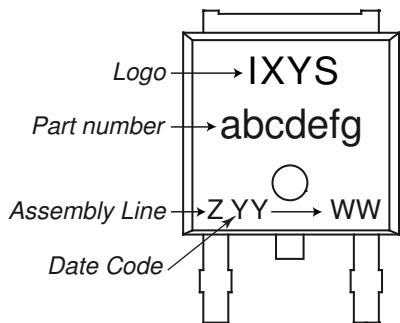
DLA10IM800UC

Package TO-252 (DPak)

Symbol	Definition	Conditions	min.	typ.	max.	Unit
I_{RMS}	<i>RMS current</i>	per terminal ¹⁾			20	A
T_{VJ}	<i>virtual junction temperature</i>		-55		175	°C
T_{op}	<i>operation temperature</i>		-55		150	°C
T_{stg}	<i>storage temperature</i>		-55		150	°C
Weight				0.3		g
F_c	<i>mounting force with clip</i>		20		60	N

¹⁾ I_{RMS} is typically limited by the pin-to-chip resistance (1); or by the current capability of the chip (2). In case of (1) and a product with multiple pins for one chip-potential, the current capability can be increased by connecting the pins as one contact.

Product Marking



Part description

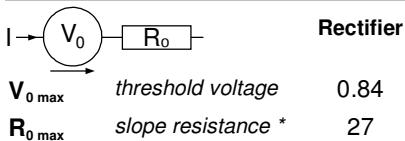
D = Diode
 L = High Efficiency Standard Rectifier
 A = (up to 1200V)
 10 = Current Rating [A]
 IM = Single Diode
 800 = Reverse Voltage [V]
 UC = TO-252AA (DPak)

Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DLA10IM800UC	MARLUI	Tape & Reel	2500	503668

Equivalent Circuits for Simulation

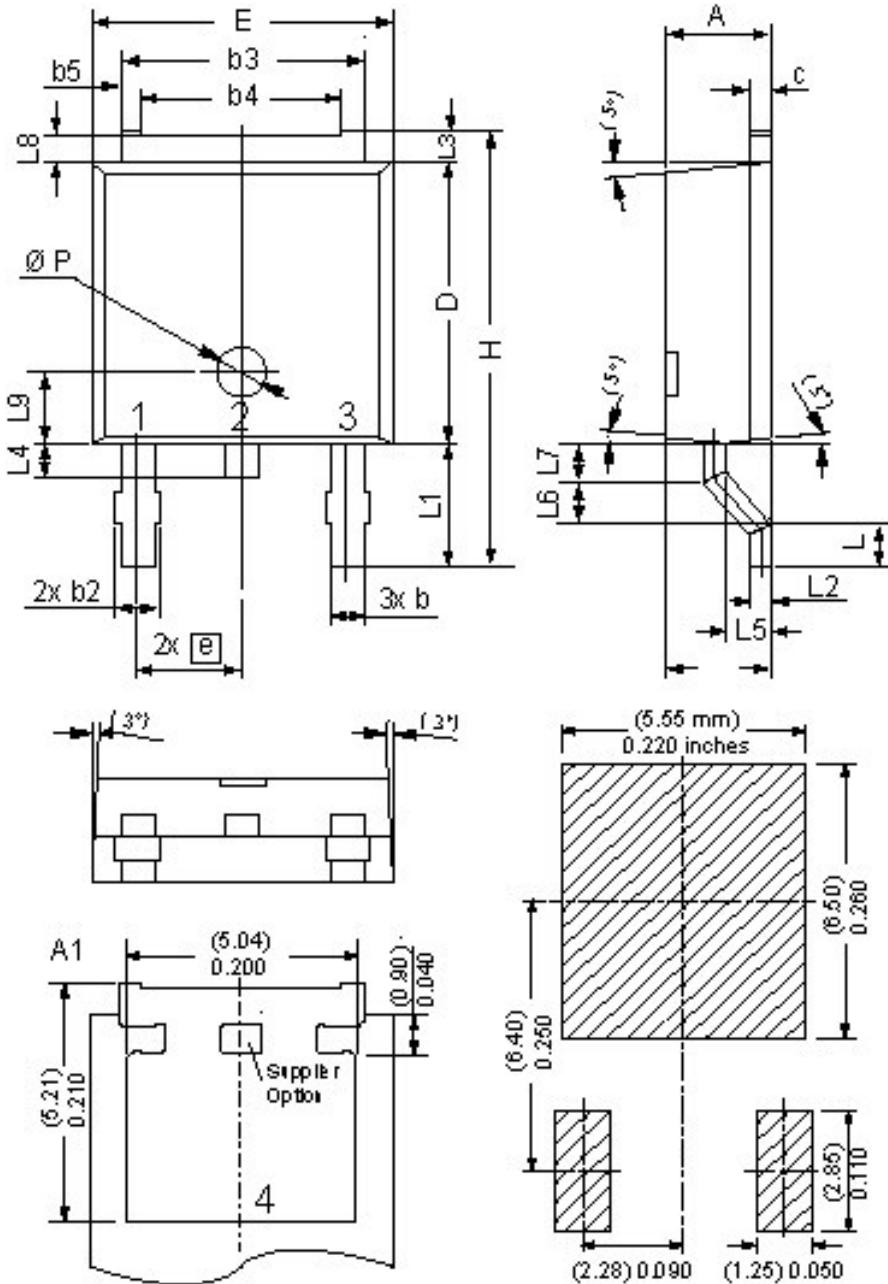
** on die level*

$T_{VJ} = 175$ °C



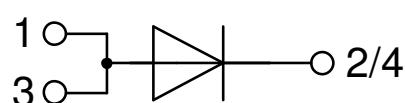
V
mΩ

Outlines TO-252 (DPak)



Dim	Millimeters		Inches	
	min	max	min	max
A	2.20	2.40	0.087	0.094
A1	2.10	2.50	0.083	0.098
b	0.66	0.86	0.026	0.034
b2	-	0.96	-	0.038
b3	5.04	5.64	0.198	0.222
b4	4.34	BSC	0.171	BSC
b5	0.50	BSC	0.020	BSC
c	0.40	0.86	0.016	0.034
D	5.90	6.30	0.232	0.248
E	6.40	6.80	0.252	0.268
e	2.10	2.50	0.083	0.098
H	9.20	10.10	0.362	0.398
L	0.55	1.28	0.022	0.050
L1	2.50	2.90	0.098	0.114
L2	0.40	0.60	0.016	0.024
L3	0.50	0.90	0.020	0.035
L4	0.60	1.00	0.024	0.039
L5	0.82	1.22	0.032	0.048
L6	0.79	0.99	0.031	0.039
L7	0.81	1.01	0.032	0.040
L8	0.40	0.80	0.016	0.031
L9	1.50	BSC	0.059	BSC
Ø P	1.00	BSC	0.039	BSC

Recommended
min. foot print





DLA10IM800UC

Rectifier

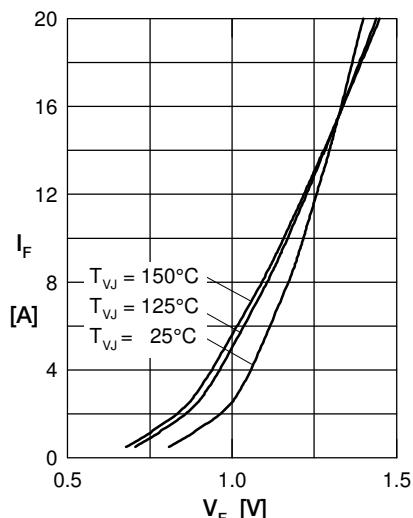


Fig. 1 Forward current versus voltage drop

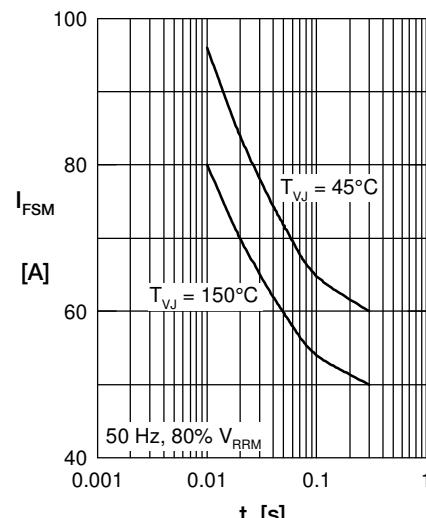


Fig. 2 Surge overload current

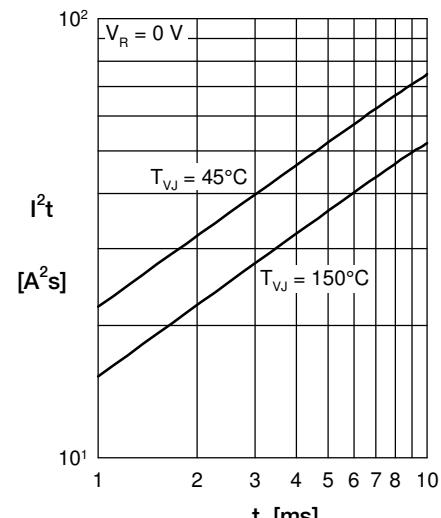


Fig. 3 I^2t versus time

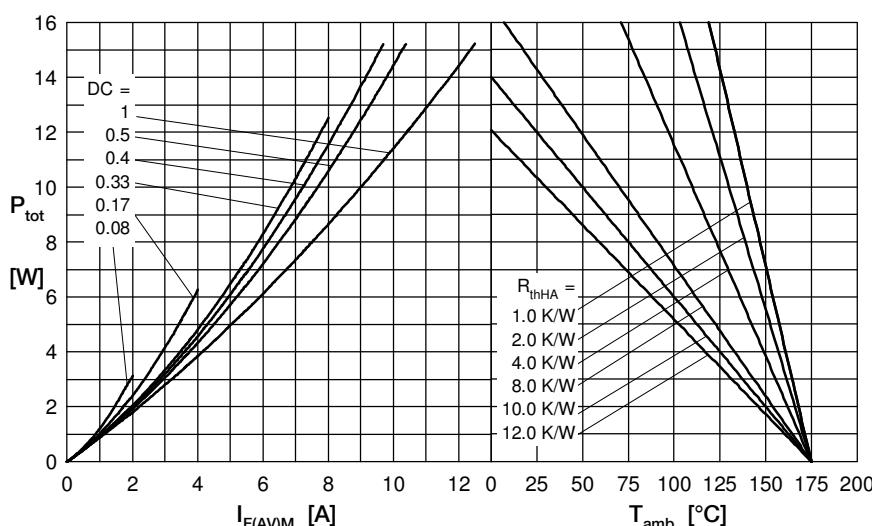


Fig. 4 Power dissipation versus direct output current and ambient temperature

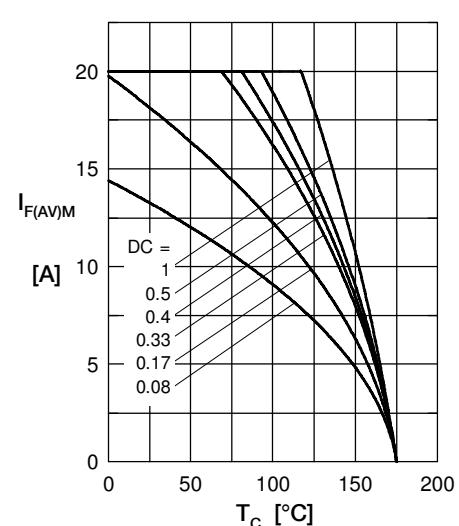


Fig. 5 Max. forward current vs. case temperature

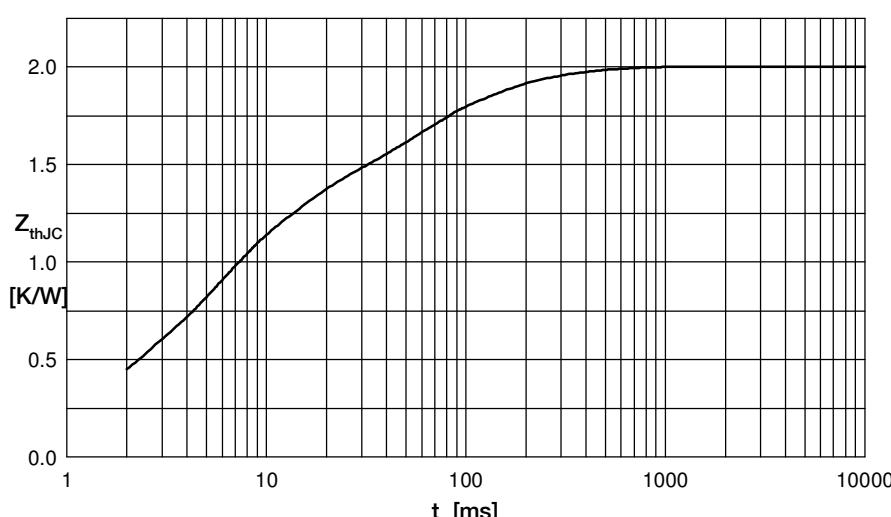


Fig. 6 Transient thermal impedance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	1.1	0.005
2	0.06	0.0003
3	0.14	0.045
4	0.2	0.2
5	0.5	0.05