

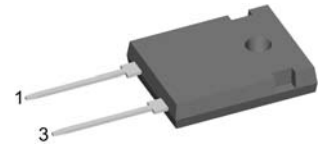
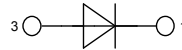
# Low Voltage Standard Rectifier

Single Diode

$V_{RRM} = 1200\text{ V}$   
 $I_{FAV} = 60\text{ A}$   
 $V_F = 1\text{ V}$

Part number

**DLA 60 I 1200 HA**



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:**

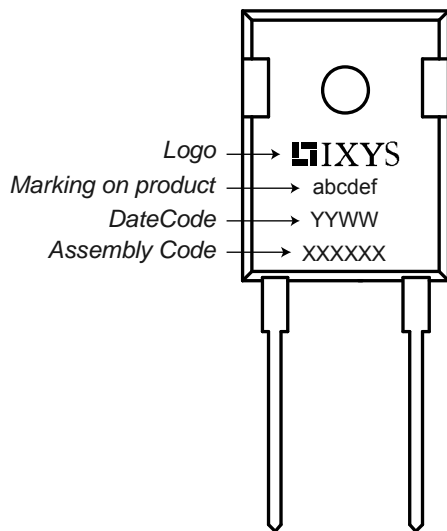
- Housing: TO-247
- Industry standard outline
- Epoxy meets UL 94V-0
- RoHS compliant

**Ratings**

Symbol	Definition	Conditions	Ratings			Unit	
			min.	typ.	max.		
$V_{RRM}$	max. repetitive reverse voltage				1200	V	
$I_R$	reverse current	$V_R = 1200\text{ V}$			20	$\mu\text{A}$	
		$V_R = 1200\text{ V}$			0.1	mA	
$V_F$	forward voltage	$I_F = 60\text{ A}$			1.10	V	
		$I_F = 120\text{ A}$			1.26	V	
		$I_F = 60\text{ A}$	$T_{VJ} = 150^\circ\text{C}$			1.00	V
		$I_F = 120\text{ A}$	$T_{VJ} = 150^\circ\text{C}$			1.16	V
$I_{FAV}$	average forward current	rectangular d = 0.5			60	A	
$V_{F0}$	threshold voltage	} for power loss calculation only			0.80	V	
$r_F$	slope resistance				3	m $\Omega$	
$R_{thJC}$	thermal resistance junction to case				0.30	K/W	
$T_{VJ}$	virtual junction temperature		-55		175	$^\circ\text{C}$	
$P_{tot}$	total power dissipation				500	W	
$I_{FSM}$	max. forward surge current	t = 10 ms; (50 Hz), sine	$T_{VJ} = 45^\circ\text{C}$			850	A
		t = 8,3 ms; (60 Hz), sine	$V_R = 0\text{ V}$			920	A
		t = 10 ms; (50 Hz), sine	$T_{VJ} = 150^\circ\text{C}$			725	A
		t = 8,3 ms; (60 Hz), sine	$V_R = 0\text{ V}$			780	A
$I^2t$	value for fusing	t = 10 ms; (50 Hz), sine	$T_{VJ} = 45^\circ\text{C}$			3.62	kA <sup>2</sup> s
		t = 8,3 ms; (60 Hz), sine	$V_R = 0\text{ V}$			3.52	kA <sup>2</sup> s
		t = 10 ms; (50 Hz), sine	$T_{VJ} = 150^\circ\text{C}$			2.63	kA <sup>2</sup> s
		t = 8,3 ms; (60 Hz), sine	$V_R = 0\text{ V}$			2.53	kA <sup>2</sup> s
$C_J$	junction capacitance	$V_R = 400\text{ V}; f = 1\text{ MHz}$	$T_{VJ} = 25^\circ\text{C}$		33	pF	

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
$I_{RMS}$	RMS current	per pin <sup>1)</sup>			70	A
$R_{thCH}$	thermal resistance case to heatsink			0.25		K/W
$T_{stg}$	storage temperature		-55		150	°C
<b>Weight</b>				6		g
$M_D$	mounting torque		0.8		1.2	Nm
$F_C$	mounting force with clip		20		120	N

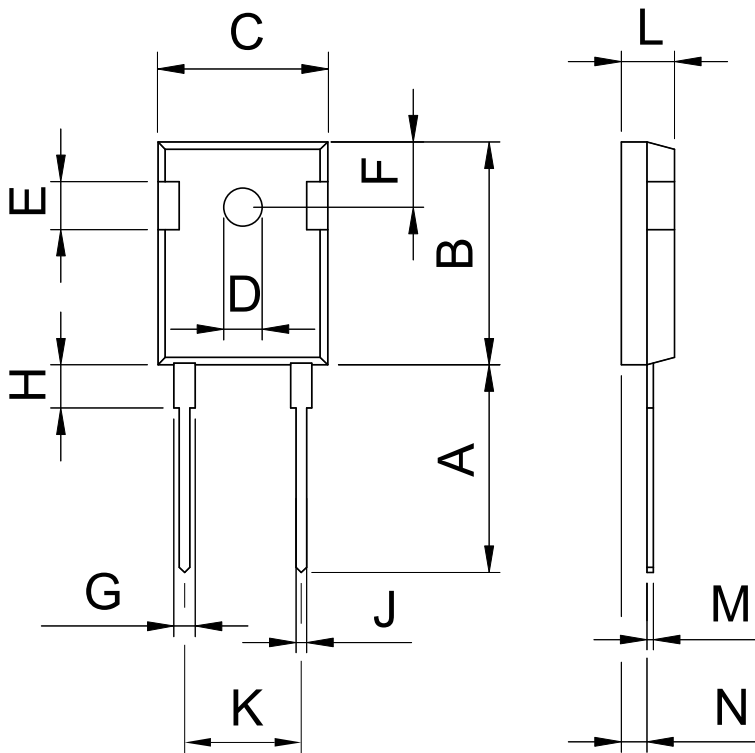
<sup>1)</sup>  $I_{RMS}$  is typically limited by: 1. pin-to-chip resistance; or by 2. current capability of the chip.  
 In case of 1, a common cathode/anode configuration and a non-isolated backside, the whole current capability can be used by connecting the backside.

**Product Marking**

**Part number**

- D = Diode
- L = Low Voltage Standard Rectifier
- A = (up to 1200V)
- 60 = Current Rating [A]
- I = Single Diode
- 1200 = Reverse Voltage [V]
- HA = TO-247AD (2)

Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Code Key
Standard	DLA 60 I 1200 HA	DLA60I1200HA	Tube	30	508170

Outlines TO-247



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.610	0.640
D	3.55	3.65	0.140	0.144
E	4.32	5.49	0.170	0.216
F	5.4	6.2	0.212	0.244
G	1.65	2.13	0.065	0.084
H	-	4.5	-	0.177
J	1.0	1.4	0.040	0.055
K	10.8	11.0	0.426	0.433
L	4.7	5.3	0.185	0.209
M	0.4	0.8	0.016	0.031
N	1.5	2.49	0.087	0.102