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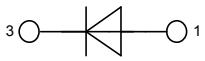
Standard Rectifier

Single Diode

V_{RRM} = 1800 V
I_{FAV} = 30 A
V_F = 1.25 V

Part number

DMA 30 E 1800 HA



Backside: anode

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**		**min.**	**typ.**	**max.**	**Unit**
V_{RRM}	*max. repetitive reverse voltage*		T_{VJ} = 25°C			1800	V
I_R	*reverse current*	V_R = 1800 V	T_{VJ} = 25°C			40	µA
		V_R = 1800 V	T_{VJ} = 150°C			1.5	mA
V_F	*forward voltage*	I_F = 30 A	T_{VJ} = 25°C			1.27	V
		I_F = 60 A				1.50	V
		I_F = 30 A	T_{VJ} = 150°C			1.25	V
		I_F = 60 A				1.57	V
I_{FAV}	*average forward current*	rectangular d = 0.5	T_C = 140°C			30	A
V_{F0}	*threshold voltage* } *for power loss calculation only*		T_{VJ} = 175°C			0.88	V
r_F	*slope resistance* }					12.1	mΩ
R_{thJC}	*thermal resistance junction to case*					0.70	K/W
T_{VJ}	*virtual junction temperature*			-55		175	°C
P_{tot}	*total power dissipation*		T_C = 25°C			210	W
I_{FSM}	*max. forward surge current*	t = 10 ms; (50 Hz), sine	T_{VJ} = 45°C			370	A
		t = 8,3 ms; (60 Hz), sine	V_R = 0 V			400	A
		t = 10 ms; (50 Hz), sine	T_{VJ} = 150°C			315	A
		t = 8,3 ms; (60 Hz), sine	V_R = 0 V			340	A
I^2t	*value for fusing*	t = 10 ms; (50 Hz), sine	T_{VJ} = 45°C			685	A²s
		t = 8,3 ms; (60 Hz), sine	V_R = 0 V			665	A²s
		t = 10 ms; (50 Hz), sine	T_{VJ} = 150°C			495	A²s
		t = 8,3 ms; (60 Hz), sine	V_R = 0 V			480	A²s
C_J	*junction capacitance*	V_R = 400 V; f = 1 MHz	T_{VJ} = 25°C		10		pF

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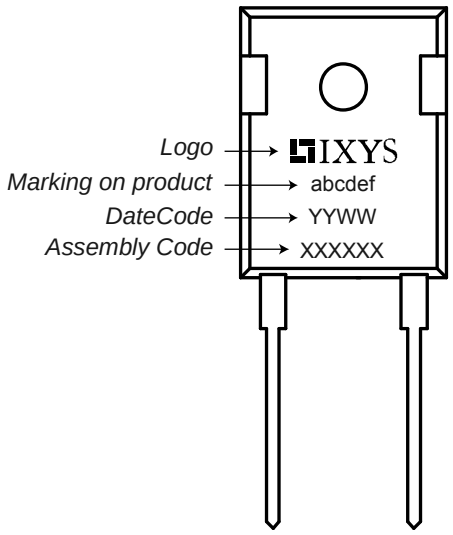
Symbol	Definition	Conditions	Ratings min.	typ.	max.	Unit
I_{RMS}	*RMS current*	per pin			70	A
R_{thCH}	*thermal resistance case to heatsink*			0.25		K/W
T_{stg}	*storage temperature*		-55		150	°C
Weight				6		g
M_D	*mounting torque*		0.8		1.2	Nm
F_C	*mounting force with clip*		20		120	N

Product Marking



Part number

D = Diode
M = Standard Rectifier
A = (up to 1800 V)
30 = Current Rating [A]
E = Single Diode
1800 = Reverse Voltage [V]
HA = TO-247AD (2)

Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Code Key
Standard	DMA 30 E 1800 HA	DMA30E1800HA	Tube	30	455156

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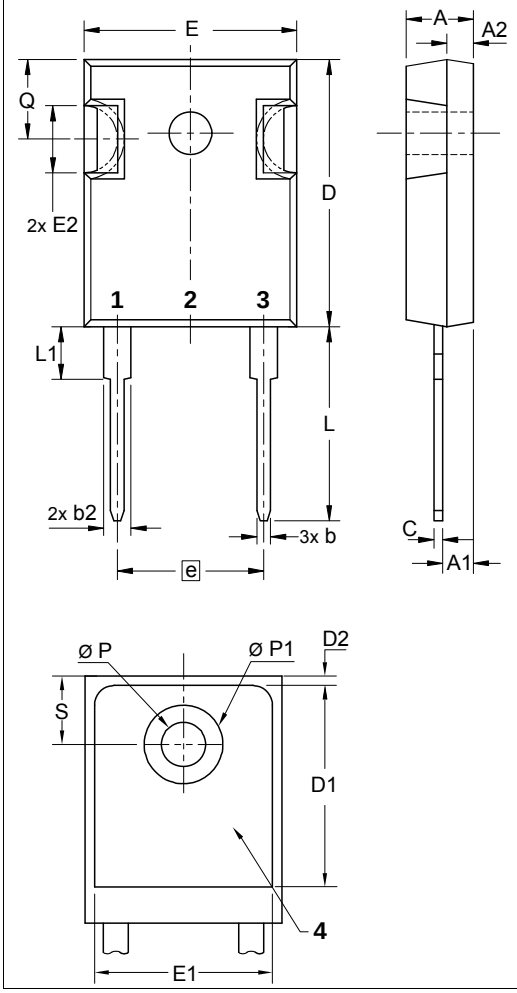
Outlines TO-247



Sym.	Inches		Millimeter	
	min.	max.	min.	max.
A	0.185	0.209	4.70	5.30
A1	0.087	0.102	2.21	2.59
A2	0.059	0.098	1.50	2.49
D	0.819	0.845	20.79	21.45
E	0.610	0.640	15.48	16.24
E2	0.170	0.216	4.31	5.48
e	0.430 BSC		10.92 BSC	
L	0.780	0.800	19.80	20.30
L1	-	0.177	-	4.49
Ø P	0.140	0.144	3.55	3.65
Q	0.212	0.244	5.38	6.19
S	0.242 BSC		6.14 BSC	
b	0.039	0.055	0.99	1.40
b2	0.065	0.094	1.65	2.39
b4	0.102	0.135	2.59	3.43
c	0.015	0.035	0.38	0.89
D1	0.515	-	13.07	-
D2	0.020	0.053	0.51	1.35
E1	0.530	-	13.45	-
Ø P1	-	0.29	-	7.39