

Standard Rectifier

Single Diode

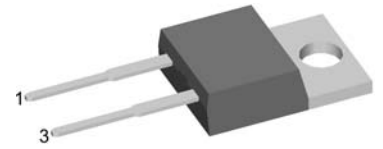
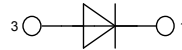
$$V_{RRM} = 1600 \text{ V}$$

$$I_{FAV} = 10 \text{ A}$$

$$V_F = 1.32 \text{ V}$$

Part number

DMA 10 I 1600 PA



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

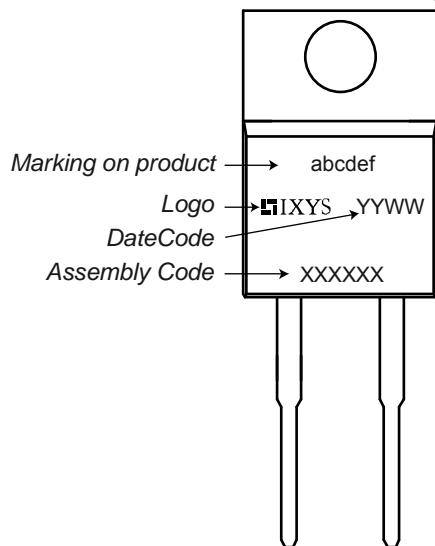
Package:

- Housing: TO-220
- 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				1600	V
I_R	reverse current	$V_R = 1600 \text{ V}$			20	μA
		$V_R = 1600 \text{ V}$			1.5	mA
V_F	forward voltage	$I_F = 10 \text{ A}$			1.25	V
		$I_F = 20 \text{ A}$			1.64	V
		$I_F = 10 \text{ A}$			1.32	V
		$I_F = 20 \text{ A}$			1.74	V
I_{FAV}	average forward current	rectangular d = 0.5			10	A
V_{F0}	threshold voltage	} for power loss calculation only			0.90	V
r_F	slope resistance				42	m Ω
R_{thJC}	thermal resistance junction to case				2.15	K/W
T_{VJ}	virtual junction temperature		-55		175	$^{\circ}\text{C}$
P_{tot}	total power dissipation				60	W
I_{FSM}	max. forward surge current	t = 10 ms; (50 Hz), sine			130	A
		t = 8,3 ms; (60 Hz), sine			140	A
		t = 10 ms; (50 Hz), sine			110	A
		t = 8,3 ms; (60 Hz), sine			120	A
I^2t	value for fusing	t = 10 ms; (50 Hz), sine			85	A ² s
		t = 8,3 ms; (60 Hz), sine			82	A ² s
		t = 10 ms; (50 Hz), sine			61	A ² s
		t = 8,3 ms; (60 Hz), sine			60	A ² s
C_J	junction capacitance	$V_R = 400 \text{ V}; f = 1 \text{ MHz}$			4	pF

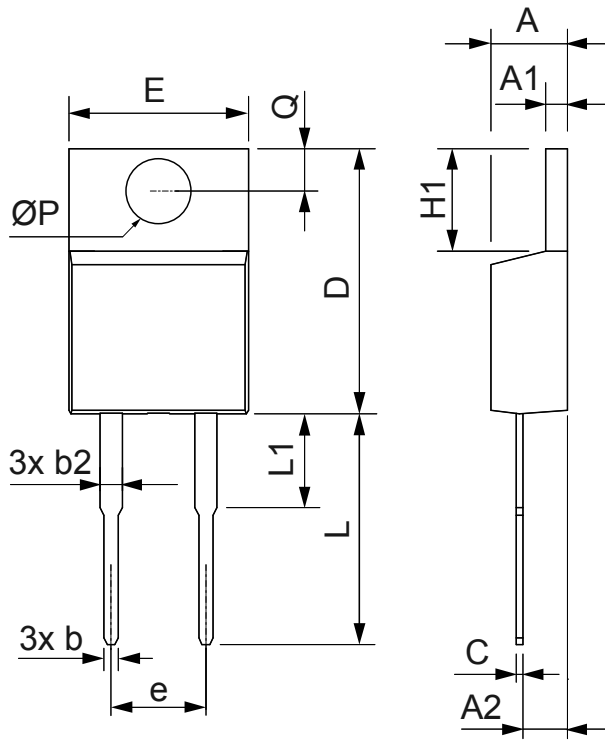
Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
I_{RMS}	RMS current	per pin			35	A
R_{thCH}	thermal resistance case to heatsink			0.50		K/W
T_{stg}	storage temperature		-55		150	°C
Weight				2		g
M_D	mounting torque		0.4		0.6	Nm
F_C	mounting force with clip		20		60	N

Product Marking

Part number

- D = Diode
- M = Standard Rectifier
- A = (up to 1800 V)
- 10 = Current Rating [A]
- I = Single Diode
- 1600 = Reverse Voltage [V]
- PA = TO-220AC (2)

Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Code Key
Standard	DMA 10 I 1600 PA	DMA10I1600PA	Tube	50	508780

Outlines TO-220



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.32	4.82	0.170	0.190
A1	1.14	1.39	0.045	0.055
A2	2.29	2.79	0.090	0.110
b	0.64	1.01	0.025	0.040
b2	1.15	1.65	0.045	0.065
C	0.35	0.56	0.014	0.022
D	14.73	16.00	0.580	0.630
E	9.91	10.66	0.390	0.420
e	5.08	BSC	0.200	BSC
H1	5.85	6.85	0.230	0.270
L	12.70	13.97	0.500	0.550
L1	2.79	5.84	0.110	0.230
$\varnothing P$	3.54	4.08	0.139	0.161
Q	2.54	3.18	0.100	0.125