

Standard Rectifier

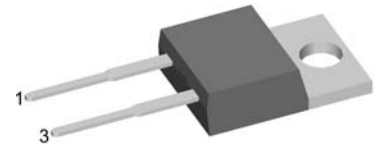
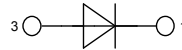
Single Diode

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

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

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

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

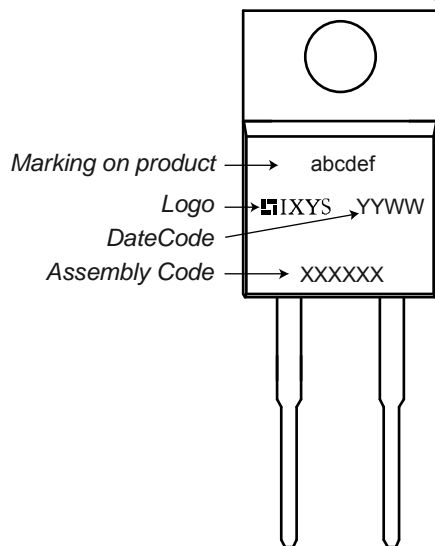
Package:

- 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 |

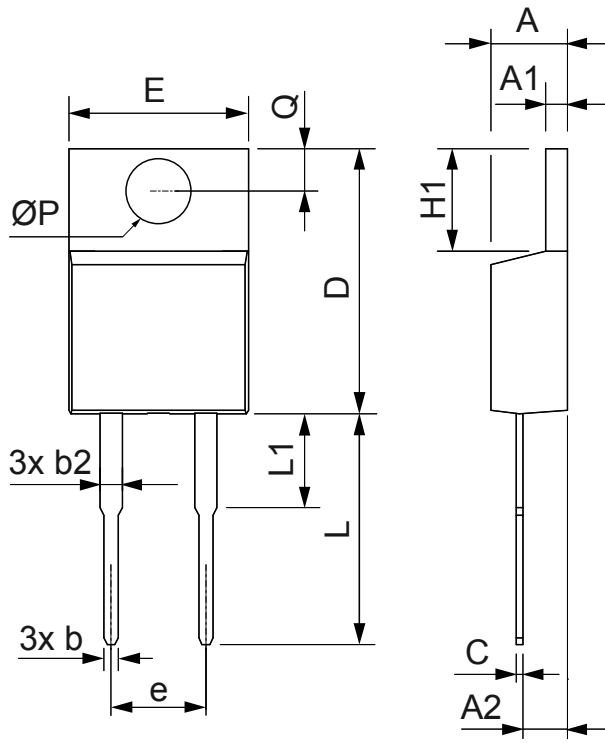
| Symbol | Definition | Conditions | Ratings | | | Unit |
|---------------|-------------------------------------|------------|---------|------|------|------|
| | | | min. | typ. | max. | |
| I_{RMS} | RMS current | per pin | | | 35 | A |
| R_{thCH} | thermal resistance case to heatsink | | | 0.50 | | 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 |