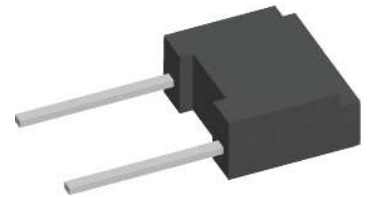


Breakover Diode Gen¹ (BOD1)

 $V_{BO} = 600-1000 \text{ V}$
 $I_{AVM} = 0.9 \text{ A}$

| V_{BO} [V] | Standard Types |
|-----------------|----------------|
| 600 ±50 | IXBOD1-06 |
| 700 ±50 | IXBOD1-07 |
| 800 ±50 | IXBOD1-08 |
| 900 ±50 | IXBOD1-09 |
| 1000 ±50 | IXBOD1-10 |



Backside: isolated



Features / Advantages:

- Fast turn on
- Low temperature dependance
- Low leakage current

Applications:

- High voltage circuit protection
- Transient voltage protection
- Trigger device
- Power pulse generators
- Lightning and arcing protection
- Energy discharge circuits
- Battery overvoltage protection
- Solar array protection

Package: FP-Case

- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0
- Soldering pins for PCB mounting
- Base plate: Plastic overmolded tab
- Reduced weight

Disclaimer Notice

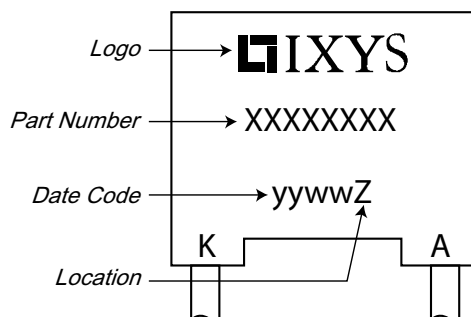
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| BOD1 | | | Ratings | | | |
|----------------|---|---|---------|------|-------------------|------------------------|
| Symbol | Definitions | Conditions | min. | typ. | max. | |
| I_D | drain current | $V_D = 0.8 \cdot V_{BO}$ $T_{VJ} = 125^\circ\text{C}$ | | | 20 | μA |
| V_{BO} | breakover voltage | $V_{BO}(T_{VJ}) = V_{BO,25^\circ\text{C}} [1 + K_T (T_{VJ} - 25^\circ\text{C})]$ | | | | V |
| I_{RMS} | RMS current | $f = 50 \text{ Hz}$ $T_{amb} = 50^\circ\text{C}$ pins soldered to printed circuit (conductor 0.035x2mm) | | | 1.4 | A |
| I_{FAVM} | maximum average forward current | | | | 0.9 | A |
| I_{SM} | maximum pulsed source current | $t_p = 0.1 \text{ ms}$; non repetitive $T_{amb} = 50^\circ\text{C}$ | | | 200 | A |
| I^2t | I^2t value for fusing | $t_p = 0.1 \text{ ms}$ $T_{amb} = 50^\circ\text{C}$ | | | 2 | A^2s |
| K_T | temperature coefficient of V_{BO} | | | | $2 \cdot 10^{-3}$ | K^{-1} |
| K_P | coefficient for energy per pulse EP (material constant) | | | | 700 | K/Ws |
| R_{thJA} | thermal resistance junction to ambient | natural convection with air speed 2 m/s | | | 60 45 | K/W K/W |
| I_{BO} | breakover current | | | | 15 | mA |
| I_H | holding current | | | | 30 | mA |
| V_H | holding voltage | | 4 | | 8 | V |
| $(dv/dt)_{cr}$ | critical rate of rise of voltage | $V_D = 0.67 \cdot (V_{BO} + 100 \text{ V})$ $T_{VJ} = 50^\circ\text{C}$ | | | 1000 | $\text{V}/\mu\text{s}$ |
| $(di/dt)_{cr}$ | critical rate of rise of current | $V_D = V_{BO}$; $I_T = 80 \text{ A}$; $f = 50 \text{ Hz}$ $T_{VJ} = 125^\circ\text{C}$ | | | 200 | $\text{A}/\mu\text{s}$ |
| t_q | turn-off time | $V_D = 0.67 \cdot V_{BO}$; $V_R = 0 \text{ V}$; $I_T = 80 \text{ A}$ $T_{VJ} = 125^\circ\text{C}$ $dv/dt_{(lin.)} = 200 \text{ V}/\mu\text{s}$; $di/dt = -10 \text{ A}/\mu\text{s}$ | | 150 | | μs |
| V_T | forward voltage drop | $I_T = 5 \text{ A}$ $T_{VJ} = 125^\circ\text{C}$ | | | 1.7 | V |
| V_{T0} | threshold voltage | for power-loss calculation only $T_{VJ} = 125^\circ\text{C}$ | | | 1.1 | V |
| r_T | slope resistance | | | | 0.12 | Ω |

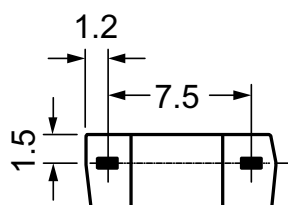
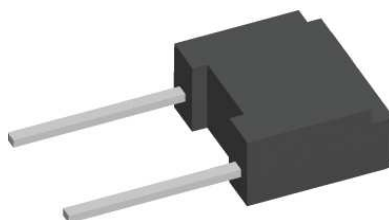
| Package FP-Case | | | Ratings | | | |
|------------------|--------------------------------------|------------|---------|------|------|----|
| Symbol | Definitions | Conditions | min. | typ. | max. | |
| T _{amb} | ambient temperature (cooling medium) | | -40 | | 125 | °C |
| T _{stg} | storage temperature | | -40 | | 125 | °C |
| T _{vJM} | maximum virtual junction temperature | | -40 | | 125 | °C |
| Weight | | | | 0.9 | | g |

Product Marking

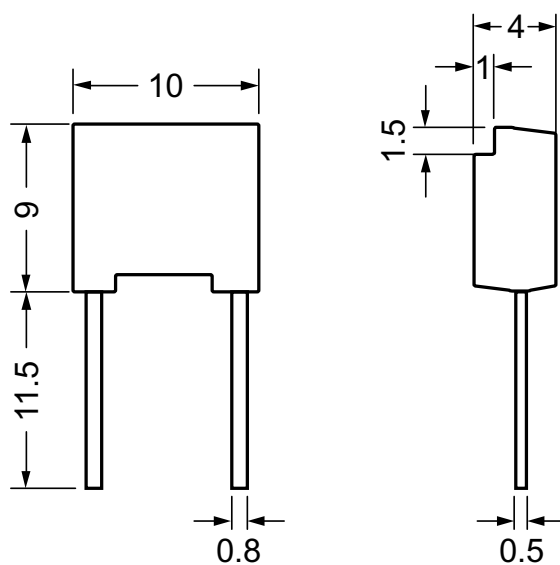


| Ordering | Part Name | Marking on Product | Delivering Mode | Base Qty | Ordering Code |
|----------|-----------|--------------------|-----------------|----------|---------------|
| Standard | IXBOD1-06 | IXBOD1-06 | Box | 100 | 467936 |
| Standard | IXBOD1-07 | IXBOD1-07 | Box | 100 | 478873 |
| Standard | IXBOD1-08 | IXBOD1-08 | Box | 100 | 467928 |
| Standard | IXBOD1-09 | IXBOD1-09 | Box | 100 | 474940 |
| Standard | IXBOD1-10 | IXBOD1-10 | Box | 100 | 467839 |

Outlines FP-case



Dimensions in mm
(1 mm = 0.0394")



Diode

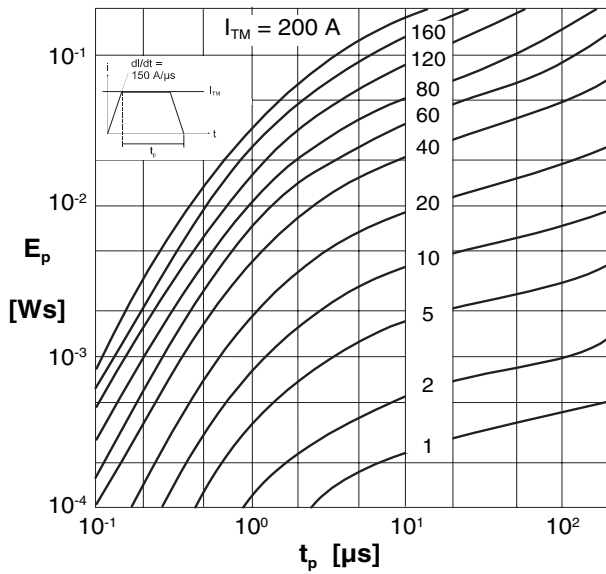


Fig. 1 Energy per pulse for trapezoidal current waveforms (see waveform definition)

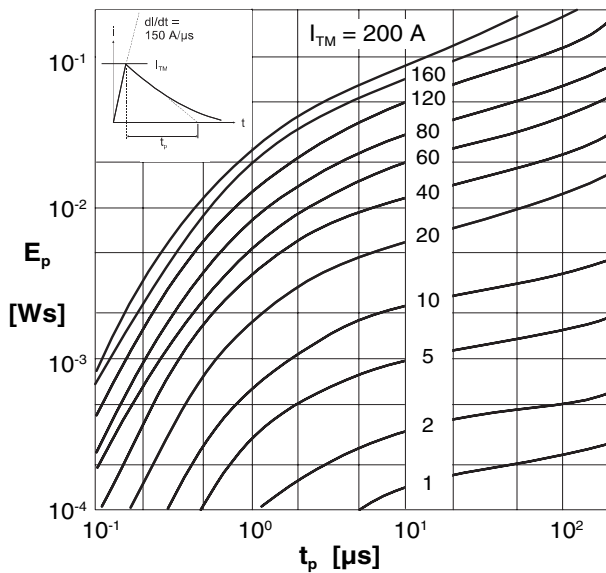


Fig. 2 Energy per pulse for exponentially decaying current pulse (see waveform definition)

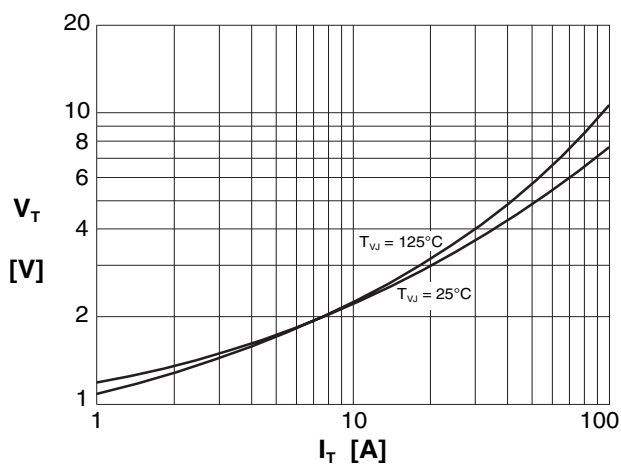


Fig. 3 On-state voltage

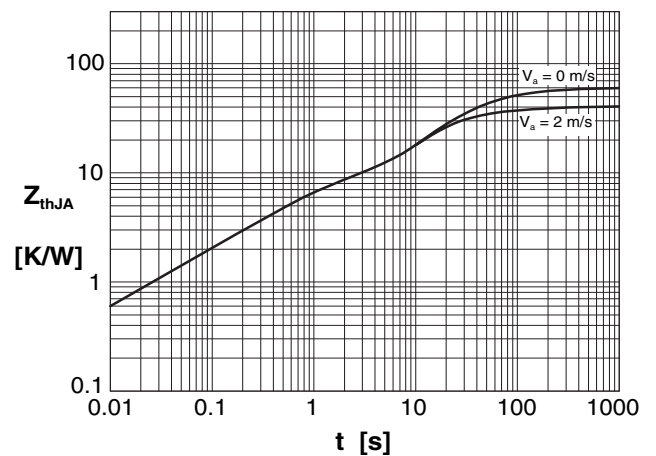


Fig. 4 Transient thermal resistance