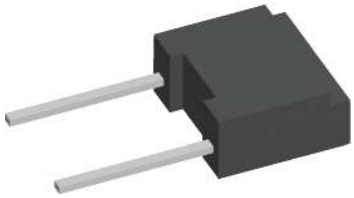
Breakover Diode Gen[1] (BOD1)

V_{BO} = 600-1000 V
I_{AVM} = 0.9 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

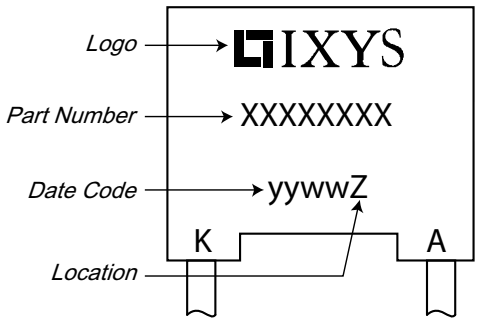
Applications:
- High voltage circuit protection
- Transient voltage protection
- Trigger device
- Power pulse generators
- Lightning and arcing protection
- Energy discharge circuits
- Battery overvoltage protection
- Solar array protection

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

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

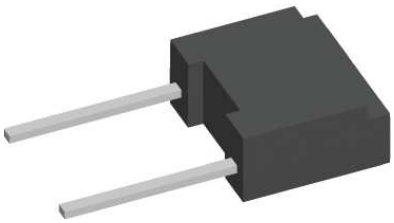
Package FP-Case			Ratings			
Symbol	Definitions	Conditions	min.	typ.	max.	
T_{amb}	*ambient temperature (cooling medium)*		-40		125	°C
T_{stg}	*storage temperature*		-40		125	°C
T_{VJM}	*maximum virtual junction temperature*		-40		125	°C
Weight				0.9		g

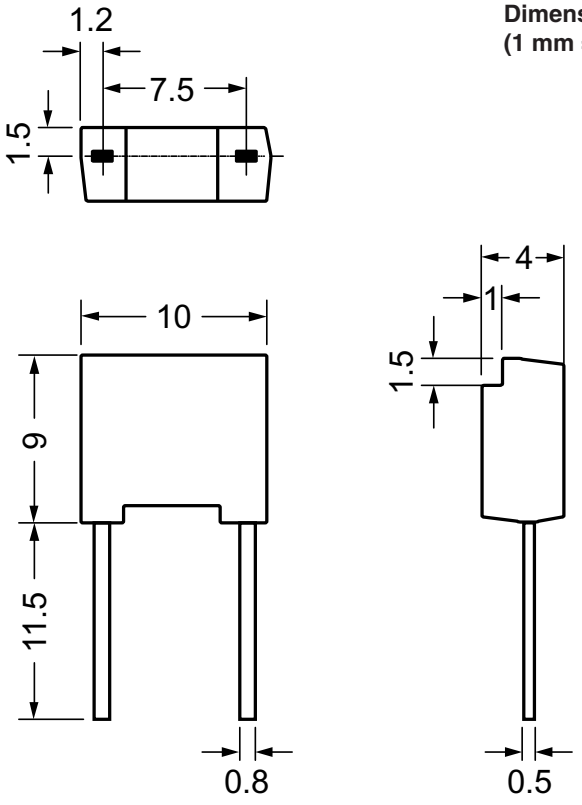
Product Marking



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

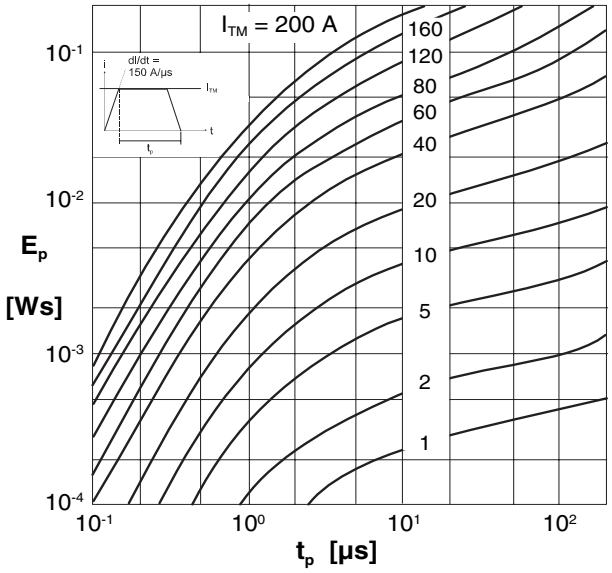


Fig. 1 Energy per pulse for trapezoidal current waveforms (see waveform definition)

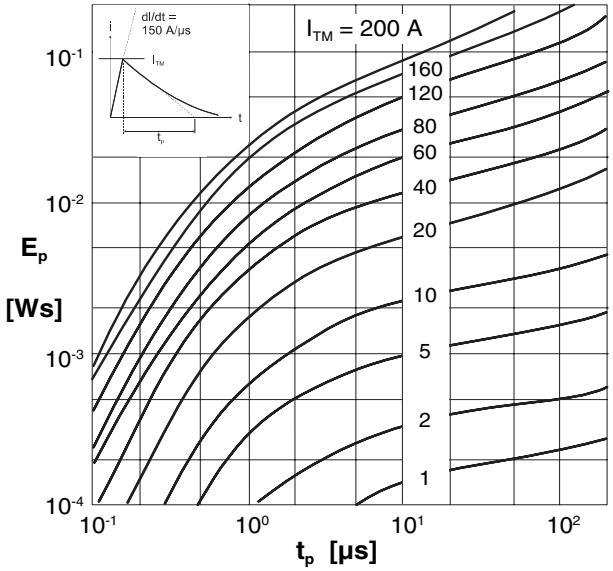


Fig. 2 Energy per pulse for exponentially decaying current pulse (see waveform definition)

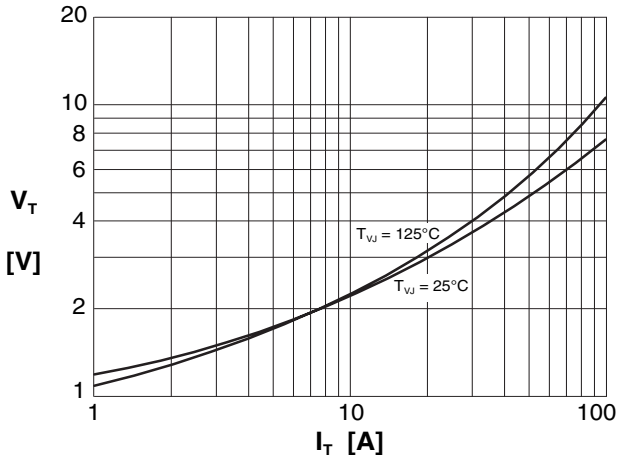


Fig. 3 On-state voltage

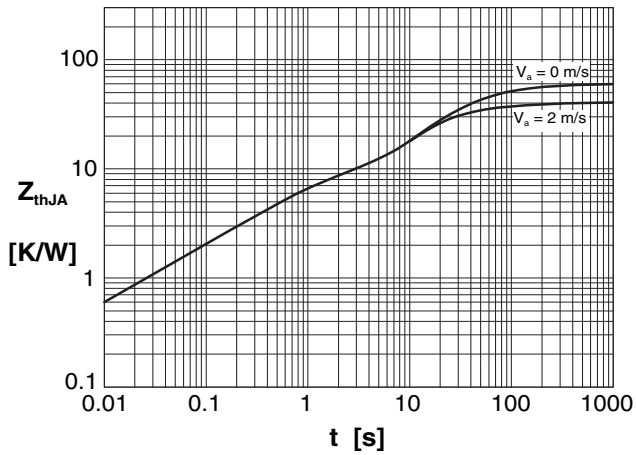


Fig. 4 Transient thermal resistance

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