

MDV03-400

ULTRA-FAST RECOVERY DIODE

MAJOR PRODUCTS CHARACTERISTICS

I _{F(AV)}	3 A
V _{RRM}	400 V
t _{rr}	25 ns
V _F (max)	1.4 V

FEATURES

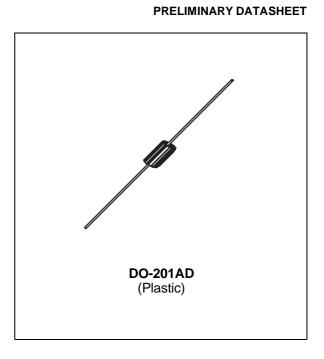
- VERY LOW REVERSE RECOVERY TIME
- VERY LOW SWITCHING LOSSES
- LOW NOISE TURN-OFF SWITCHING

DESCRIPTION

Ultra-fast diode especially designed for modulation and flyback rectification in standard and high resolution displays for TV's and monitors.

The device is packaged in a DO-201AD axial enve-

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ABSOLUTE RATINGS (limiting values)

Symbol	Parameter	Value	Unit	
V_{RRM}	Repetitive peak reverse voltage		400	V
V _{RSM}	Non repetitive peak reverse voltage		440	V
I _{FRM}	Repetive peak forward current	60	Α	
I _{F (AV)}	Average forward current*	$T_{a=}65^{\circ}C$ $\delta=0.5$	3	А
I _{FSM}	Surge non repetitive forward current	t _p = 10ms Sinusoidal	60	Α
Р	Power dissipation *	4.2	W	
T _{stg} T _j	Storage and junction temperature range	- 40 to + 150 - 40 to + 150	°C	

THERMAL RESISTANCES

Symbol	Parameter Value			
R _{th (j - l)}	Junction to lead	20	°C/W	
R _{th (j - a)}	Junction to ambient on printed circuit L lead = 10mm	75	°C/W	

^{*} On infinite heatsink with 10mm lead lengh.

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STATIC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test Co	nditions	Тур.	Max.	Unit
I _R *	Reverse Leakage Current	$V_R = V_{RRM}$	Tj = 25°C Tj = 100°C		20 0.5	μA mA
V _F **	Forward Voltage Drop	I _F = 3 A	Tj = 25°C Tj = 100°C		1.5 1.4	V

DYNAMIC ELECTRICAL CHARACTERISTICS

TURN-OFF SWITCHING

Symbol	Parameter	Test Conditions	Тур.	Max.	Unit
t _{rr}	Reverse Recovery Time	$I_F=1A$ di _F /dt= -15A/ μ s $V_R=30V$		55	ns
		$I_F = 0.5A$ $I_R = 1A$ $Irr = 0.25A$		25	ns

DYNAMIC ELECTRICAL CHARACTERISTICS

TURN-ON SWITCHING

Symbol	Parameter	Test Conditions	Тур.	Max.	Unit
t _{fr}	Forward Recovery Time	$I_F = 3 A$ $dI_F/dt = 60 A/\mu s$		250	ns
V_{FP}	Peak Forward Voltage	Measured at 1.1 V _F max. Tj = 25°C		13	V

To evaluate the maximum conduction losses use the following equation :

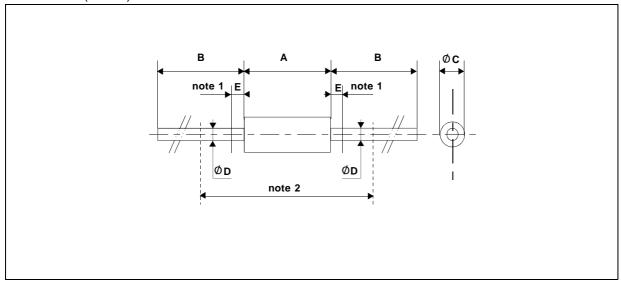
$$P = \frac{1.10 \ x \ I_p}{2} x \ \delta + \frac{0.050 \ x \ I_p^{\ \ 2}}{3} \ x \ \delta$$

 δ : duty cycle I_p : Peak current

Ex: for $I_p = 3$ A and $\delta = 0.5$, P = 0.9 Watts.

PACKAGE MECHANICAL DATA

DO-201AD (Plastic)



	DIMENSIONS						
REF.	Millim	eters	Inches		Inches		NOTES
	Min.	Max.	Min.	Max.			
Α		9.50		0.374	1 - The lead diameter Ø D is not controlled over zone E		
В	25.40		1.000		2 - The minimum axial lengh within which the device may be		
ØC		5.30		0.209	placed with its leads bent at right angles is 0.59"(15 mm)		
ØD		1.30		0.051			
Е		1.25		0.049			

Weight: 1 g

Marking: Type number - Date code White band indicated cathode

cooling methode: by convertion (method A)

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