

**HIGH VOLTAGE ULTRA-FAST DIODE FOR VIDEO**

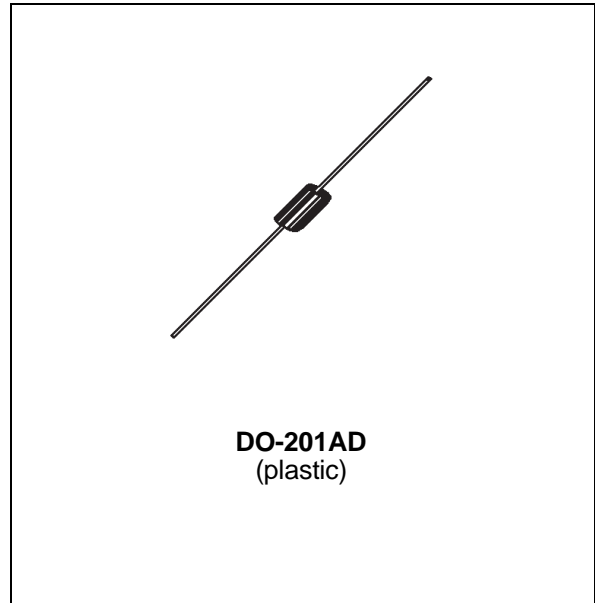
PRELIMINARY DATASHEET

**MAJOR PRODUCTS CHARACTERISTICS**

<b>I<sub>Fpeak</sub></b>	<b>4 A</b>
<b>V<sub>R</sub>RM</b>	<b>600 V</b>
<b>t<sub>rr</sub></b>	<b>55 ns</b>
<b>V<sub>F</sub> (max)</b>	<b>1.2 V</b>

**FEATURES AND BENEFITS**

- TURBOSWITCH™ OUTSTANDING BENEFITS.
- HIGH REVERSE VOLTAGE : 600 V
- LOW POWER LOSSES INDUCING LOW TEMPERATURE AND HIGH RELIABILITY.
- OPTIMIZED COMPROMISE BETWEEN t<sub>rr</sub> AND SOFTNESS FOR VIDEO HORIZONTAL DEFLECTION.



**DESCRIPTION**

High voltage 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 envelope.

**ABSOLUTE MAXIMUM RATINGS**

<b>Symbol</b>	<b>Parameter</b>		<b>VALUE</b>	<b>Unit</b>
V <sub>R</sub> RM	Repetitive Peak Reverse Voltage		600	V
V <sub>R</sub> WM	Reverse Working Voltage		600	V
I <sub>F</sub> peak	Forward Average Current (1)		4	A
	Ambient temperature (2)		115	°C
I <sub>F</sub> RM	Repetitive peak forward current	tp = 5µs f = 1kHz	100	A
I <sub>F</sub> SM	Surge Non Repetitive Forward Current	tp = 10 ms sine	150	A
T <sub>stg</sub>	Storage Temperature Range		- 40 to 150	°C
T <sub>j</sub>	Max Operating Junction Temperature		150	°C

(1) delta = 0.5 and triangular waveform  
(2) on infinite heatsink with 10mm lead length

## MDV04-600

### THERMAL DATA

Symbol	Parameter	Max.	Unit
R <sub>th(j-l)</sub>	Junction to lead on infinite heatsink	21	°C/W
R <sub>th(j-a)</sub>	Junction to ambient on printed circuit L lead = 10mm	75	°C/W

### STATIC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test Conditions	Typ.	Max.	Unit
I <sub>R</sub> *	Reverse Leakage Current	V <sub>R</sub> = 0.8 V <sub>RWM</sub> T <sub>j</sub> = 25°C T <sub>j</sub> = 125°C		50 0.75	μA mA
V <sub>F</sub> **	Forward Voltage Drop	I <sub>F</sub> = 4 A T <sub>j</sub> = 25°C T <sub>j</sub> = 125°C		1.28 1.20	V V

Pulse test : \* tp = 5 ms, duty cycle < 2%  
\*\* tp = 380 μs, duty cycle < 2%

### DYNAMIC ELECTRICAL CHARACTERISTICS TURN-OFF SWITCHING

Symbol	Parameter	Test Conditions	Typ.	Max.	Unit
t <sub>rr</sub>	Reverse Recovery Time	I <sub>F</sub> = 0.5A I <sub>R</sub> = 1A I <sub>rr</sub> = 0.25A	55	75	ns
		I <sub>F</sub> = + 100 mA / - 100 mA	130		ns

### DYNAMIC ELECTRICAL CHARACTERISTICS TURN-ON SWITCHING

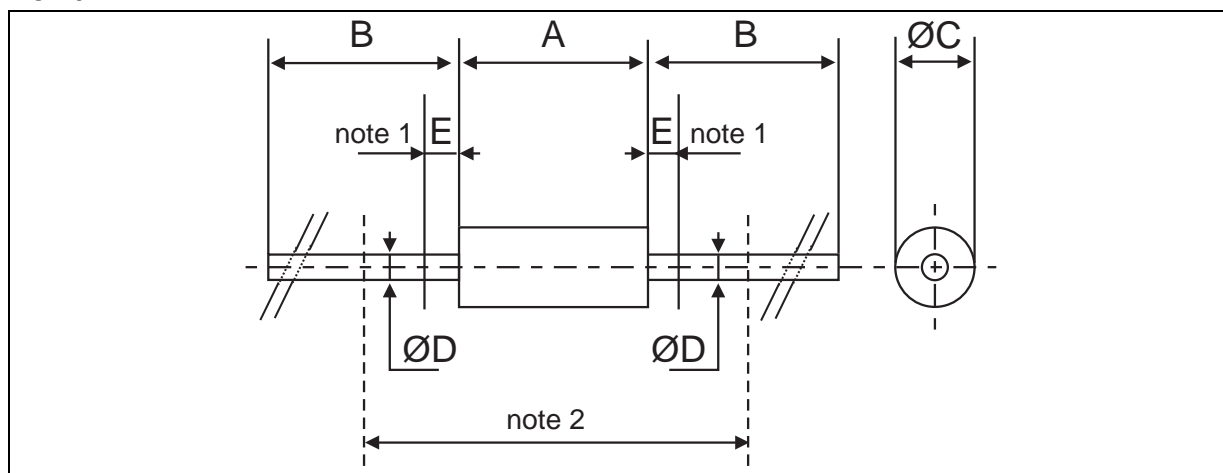
Symbol	Parameter	Test Conditions	Typ.	Max.	Unit
t <sub>fr</sub>	Forward Recovery Time	I <sub>F</sub> = 4 A dI <sub>F</sub> /dt = 100 A/μs Measured at V <sub>F</sub> max.		0.5	μs
V <sub>FP</sub>	Peak Forward Voltage	T <sub>j</sub> = 25°C		15	V

To evaluate the maximum conduction losses use the following equation :

$$P = \frac{1.0 \times I_p}{2} \times \delta + \frac{0.050 \times I_p^2}{3} \times \delta$$

δ : duty cycle  
I<sub>p</sub> : Peak current

Ex : for I<sub>p</sub> = 4 A and δ = 0.5, P = 1.2 Watts.

**PACKAGE MECHANICAL DATA**  
 DO-201AD


REF.	DIMENSIONS				NOTES
	Millimeters		Inches		
	Min.	Max.	Min.	Max.	
A		9.50		0.374	1 - The lead diameter $\varnothing D$ is not controlled over zone E 2 - The minimum axial length within which the device may be placed with its leads bent at right angles is 0.59" (15 mm)
B	25.40		1.000		
$\varnothing C$		5.30		0.209	
$\varnothing D$		1.30		0.051	
E		1.25		0.049	

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