

DAMPER + MODULATION DIODE FOR VIDEO

PRELIMINARY DATASHEET

MAIN PRODUCT CHARACTERISTICS

	MODUL	DAMPER
$I_{F(AV)}$	5 A	6 A
V_{RRM}	600 V	1500 V
t_{rr}	80 ns	175 ns
V_F	1.2 V	1.3 V

FEATURES AND BENEFITS

- FULL KIT IN ONE PACKAGE
- DMV32A AND DMV32B ARE SUITED FOR RESPECTIVELY 32KHZ AND 56KHZ DEFLECTION
- OUTSTANDING PERFORMANCE OF WELL PROVEN DTV32 AS DAMPER AND TURBOSWITCH™ "A" AS MODULATION
- LEAD BENDING OPTION AVAILABLE
- INSULATED PACKAGE (2500 VRMS)

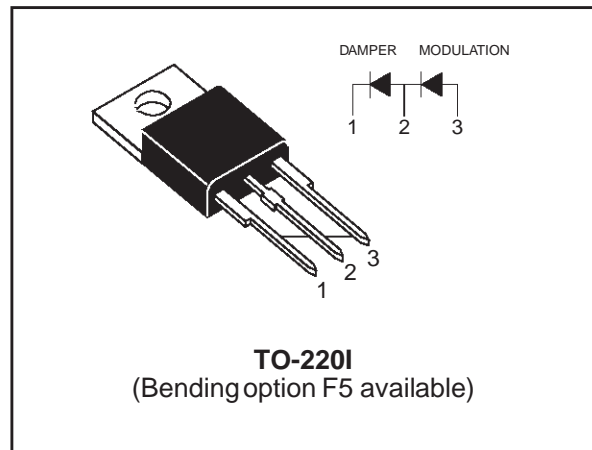
DESCRIPTION

High voltage semiconductor especially designed for horizontal deflection stage in standard and high resolution video display with E/W correction.

The TO-220I insulated package includes both the DAMPER diode and the MODULATION diode. Assembled on automated line and UL recognized. Best insulating and dissipating characteristics, thanks to the internal ceramic insulation layer.

ABSOLUTE RATINGS

Symbol	Parameter		VALUE		Unit
			MODUL	DAMPER	
V_{RRM}	Repetitive peak reverse voltage		600	1500	V
$I_{F(AV)}$	Forward average current	$T_c = 120^\circ\text{C}, \delta = 0.5$	5	6	A
I_{FSM}	Surge non repetitive forward current	10 ms half sine	75	100	
T_{stg}	Storage temperature range		- 40 to + 150		°C
T_j	Maximum operating junction temperature		150		



DMV32

ELECTRICAL CHARACTERISTICS OF THE DAMPER DIODES IN DMV32

Symbol	Parameter	Test Conditions		Typ.	Max.	Unit
I_R^*	Reverse leakage current	$V_R = V_{RRM}$	$T_j = 25^\circ\text{C}$		100	μA
			$T_j = 125^\circ\text{C}$	0.1	1	mA
V_F^{**}	Forward voltage drop	$I_F = 6\text{ A}$	$T_j = 25^\circ\text{C}$		1.5	V
			$T_j = 125^\circ\text{C}$	1.1	1.35	
t_{rr}	Reverse recovery time	$I_F = 1\text{ A}$ $di_F/dt = -50\text{ A}/\mu\text{s}$ $V_R = 30\text{ V}$		170	300	ns
		$I_F = 100\text{ mA}$ $I_R = 100\text{ mA}$ $I_{RR} = 10\text{ mA}$			4	μs
t_{fr}	Forward recovery time	$I_F = 6\text{ A}$ $di_F/dt = 80\text{ A}/\mu\text{s}$ Measured at $V_{FR} = 2\text{ V}$		0.5		
V_{FP}	Peak forward voltage	$T_j = 100^\circ\text{C}$		30		V

To evaluate the maximum conduction losses use the following equations:

$$P = 1.0 \times I_{F(AV)} + 0.025 \times I_{F(RMS)}^2$$

ELECTRICAL CHARACTERISTICS OF THE MODULATION DIODE in DMV32

Symbol	Parameter	Test Conditions		Typ.	Max.	Unit
I_R^*	Reverse leakage current	$V_R = 480\text{ V}$	$T_j = 25^\circ\text{C}$		100	μA
			$T_j = 125^\circ\text{C}$	0.60	2	mA
V_F^{**}	Forward voltage drop	$I_F = 5\text{ A}$	$T_j = 25^\circ\text{C}$		1.75	V
			$T_j = 125^\circ\text{C}$		1.5	
t_{rr}	Reverse recovery time	$I_F = 1\text{ A}$ $di_F/dt = -50\text{ A}/\mu\text{s}$ $V_R = 30\text{ V}$			50	ns
		$I_F = 100\text{ mA}$ $I_R = 100\text{ mA}$ $I_{RR} = 10\text{ mA}$		110	350	
t_{fr}	Forward recovery time	$I_F = 5\text{ A}$ $di_F/dt = 50\text{ A}/\mu\text{s}$ Measured at $1.1 \times V_F \text{ max.}$			0.3	ms
V_{FP}	Peak forward voltage	$T_j = 25^\circ\text{C}$			10	V

Pulse test : * $t_p = 5\text{ ms}$, $\delta < 2\%$
** $t_p = 380\text{ }\mu\text{s}$, $\delta < 2\%$

To evaluate the maximum conduction losses use the following equations:

$$P = 1.05 \times I_{F(AV)} + 0.06 \times I_{F(RMS)}^2$$

THERMAL DATA

Symbol	Parameter	Max.	Unit
$R_{th(j-c)}$	Damper junction to case	3.5	°C/W
$R_{th(j-c)}$	Modulation junction to case	5	
$R_{th(c)}$	Coupling	0.2	
$R_{th(j-c)}$	Total as per full $I_{F(AV)}$ maximum ratings	2.2	

ORDERING INFORMATION

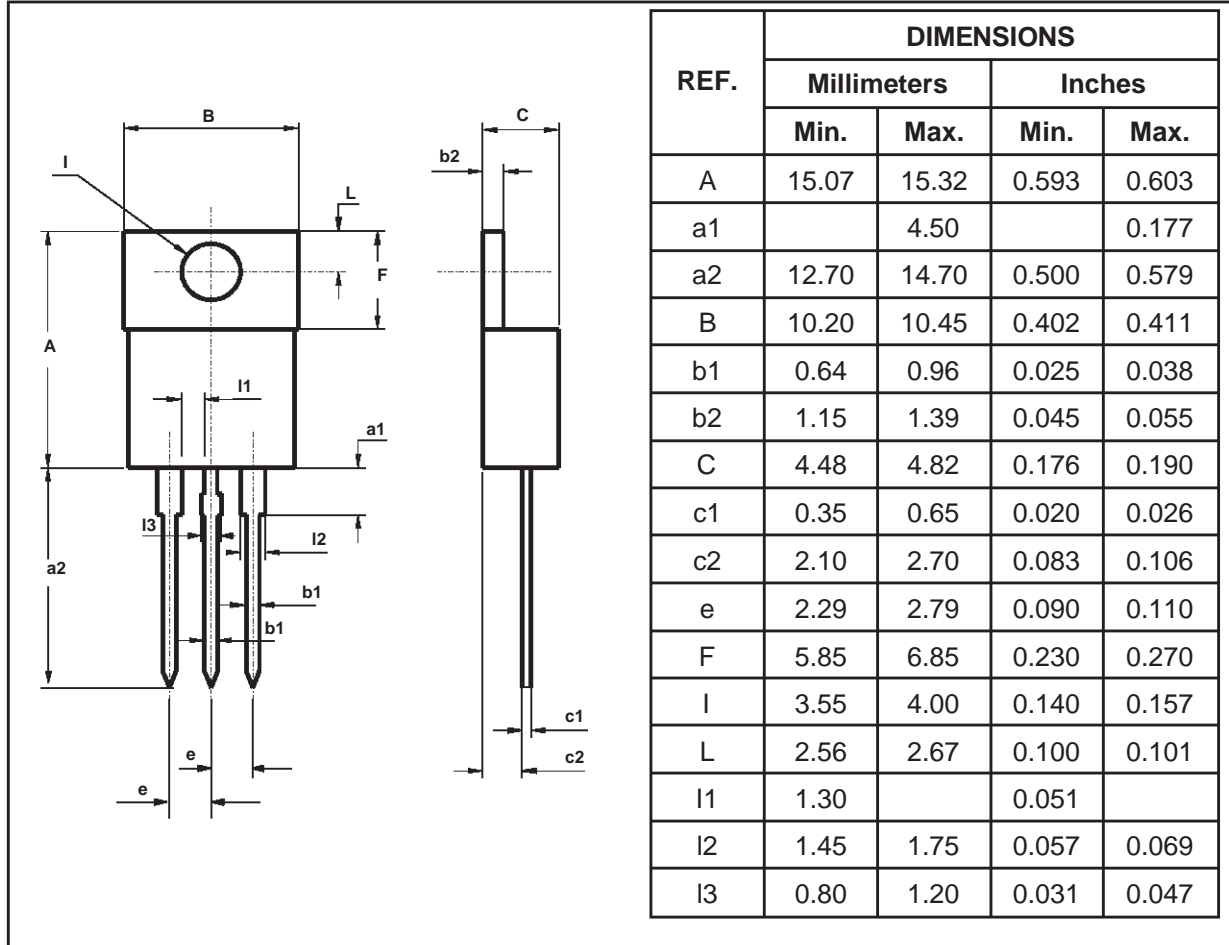
DMV32 / F5

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DAMPER AND MODULATION DIODES FOR VIDEO
LEAD BENDING (OPTION)

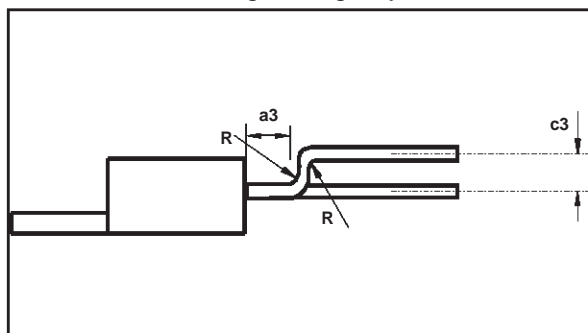
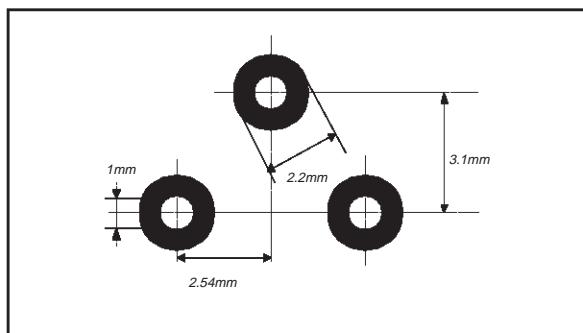
DMV32

PACKAGE MECHANICAL DATA
TO-220I



BENDING OPTION "F5"

Recommended for high voltage layout clearance

**PRINTED CIRCUIT LAYOUT FOR F5 VERSION**

REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
a3	1.65	2.41	0.065	0.095
c3	2.92	3.30	0.115	0.130
R	1.00 typ.		1.00 typ.	

- **Marking:** Type number
- Cooling method: C
- Weight: 2.3 g
- Recommended torque value: 0.8 m.N.
- Maximum torque value: 1 m.N.
- Epoxy meets UL94,V0
- Capacitance: 7 pF
- Shipped: 50 units per tube

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