

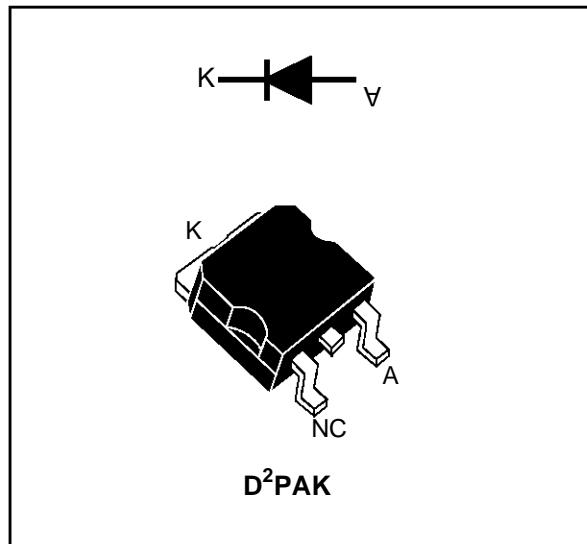
(CRT HORIZONTAL DEFLECTION)  
 HIGH VOLTAGE DAMPER DIODE

## MAIN PRODUCTS CHARACTERISTICS

I <sub>F(AV)</sub>	6 A
V <sub>RRM</sub>	1500 V
V <sub>F</sub> (max)	1.5 V

## FEATURES AND BENEFITS

- HIGH BREAKDOWN VOLTAGE CAPABILITY
- HIGH FREQUENCY OPERATION
- SPECIFIED TURN ON SWITCHING CHARACTERISTICS
- TYPICAL TOTAL LOSSES: 3.5 W  
(I<sub>Fpeak</sub> = 6 A, F = 56 kHz)
- SUITABLE WITH **BUH** TRANSISTORS SERIES
- SMD PACKAGE



## DESCRIPTION

High voltage diode especially designed for horizontal deflection stage in standard and high resolution displays for TV's and monitors.

This device is packaged in D<sup>2</sup>PAK.

## ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter		Value	Unit
I <sub>F(RMS)</sub>	RMS forward current		15	A
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage		1500	V
V <sub>RWM</sub>	Reverse Working Voltage		1350	V
I <sub>F(AV)</sub>	Average forward current $\delta = 0.5$	T <sub>c</sub> =130°C	6	A
I <sub>FSM</sub>	Surge Non Repetitive Forward Current	tp = 10ms sinusoidal	100	A
T <sub>stg</sub>	Storage Temperature		- 40 to 150	°C
T <sub>j</sub>	Maximum Operating Junction Temperature		150	

## DTV32G-1500B

### THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to Case	2	°C/W

### STATIC ELECTRICAL CHARACTERISTICS

Symbol	Test Conditions	Min	Typ	Max	Unit
$I_R$ *	$V_R = V_{RWM}$	$T_j = 25^\circ C$		200	$\mu A$
		$T_j = 100^\circ C$		1	mA
$V_F$ **	$I_F = 6A$	$T_j = 25^\circ C$		1.5	V
		$T_j = 100^\circ C$		1.4	

pulse test : \*  $t_p = 5 \text{ ms}$ ,  $\delta < 2\%$

\*\*  $t_p = 380 \mu s$ ,  $\delta < 2\%$

### RECOVERY CHARACTERISTICS

Symbol	Test Conditions		Min	Typ	Max	Unit
$t_{rr}(1)$	$T_j = 25^\circ C$	$I_F = 1 A \quad dI_F/dt = -50 A/\mu s \quad V_R = 30V$			175	ns
		$I_F = 1 A \quad dI_F/dt = -15 A/\mu s \quad V_R = 30V$		250		
$t_{rr}$	$T_j = 25^\circ C$	$I_F = 1 A \quad I_R = 100mA$		140		ns

### TURN-ON SWITCHING CHARACTERISTICS

Symbol	Test Conditions		Min	Typ	Max	Unit
$t_{fr}(2)$	$T_j = 100^\circ C$	$I_F = 6 A \quad dI_F/dt = 80 A/\mu s$		0.6		$\mu s$
		$V_{FR} = 2 V$			39	V

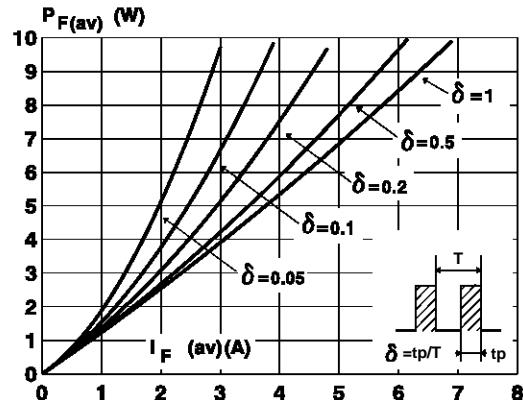
(1) Test following JEDEC standard

(2) Test representative of the application

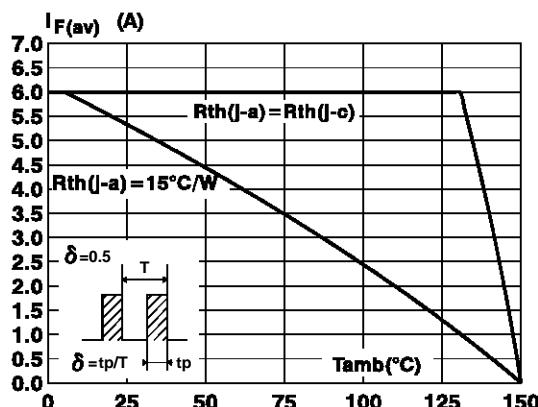
To evaluate the maximum conduction losses use the following equation :

$$V_F = 1.2 + 0.034 I_F \quad P = 1.2 \times I_F(\text{av}) + 0.034 \times I_F^2(\text{RMS})$$

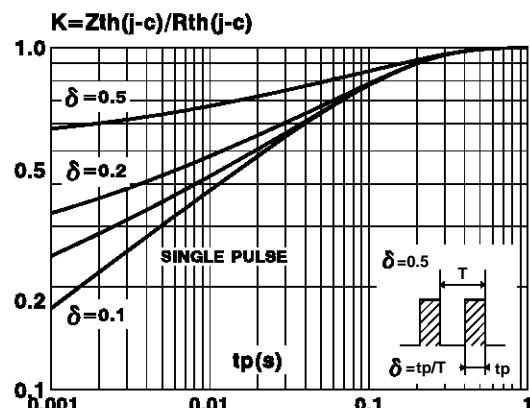
**Fig. 1:** Average forward power dissipation versus average forward current.



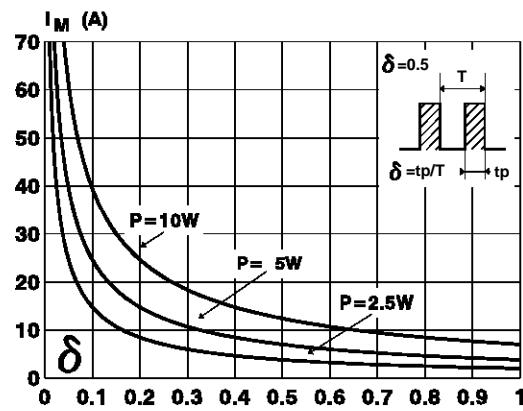
**Fig. 3:** Average current versus ambient temperature.



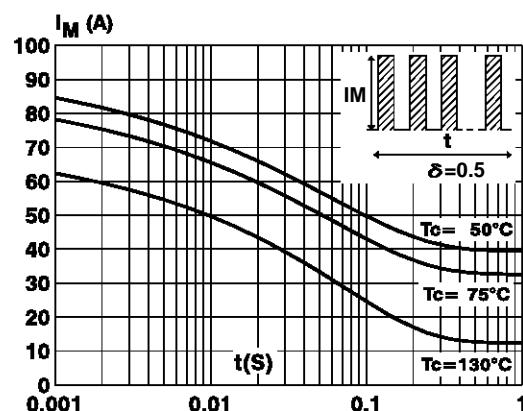
**Fig. 5:** Relative variation of thermal transient impedance junction to case versus pulse duration.



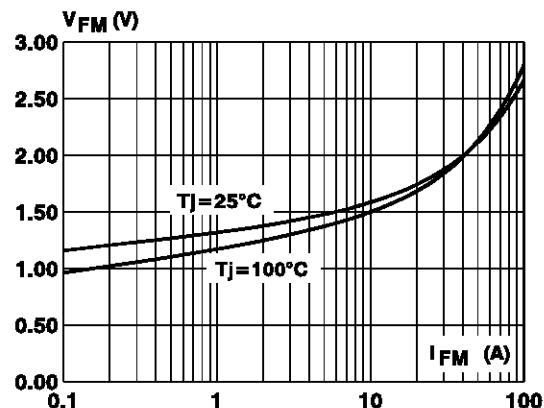
**Fig. 2:** Peak current versus form factor.



**Fig. 4:** Non repetitive surge peak forward current versus overload duration (maximum values).



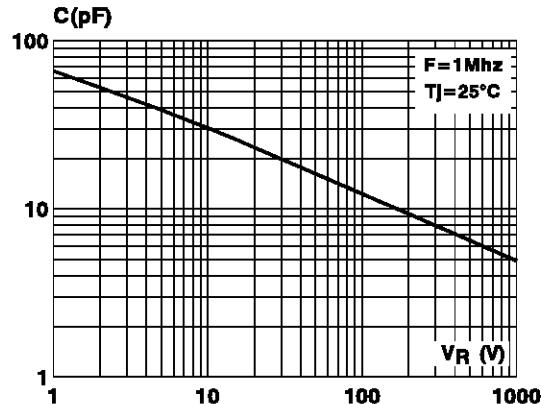
**Fig. 6:** Forward voltage drop versus forward current (maximum values).



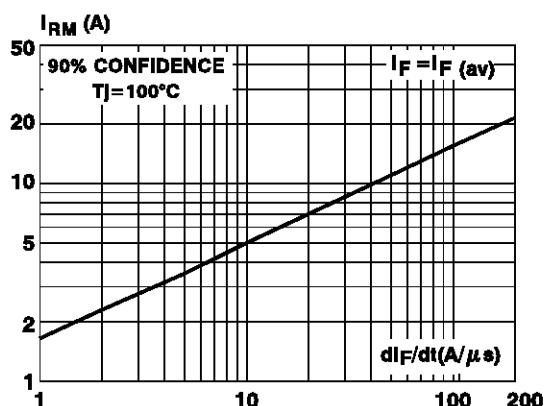
## DTV32G-1500B

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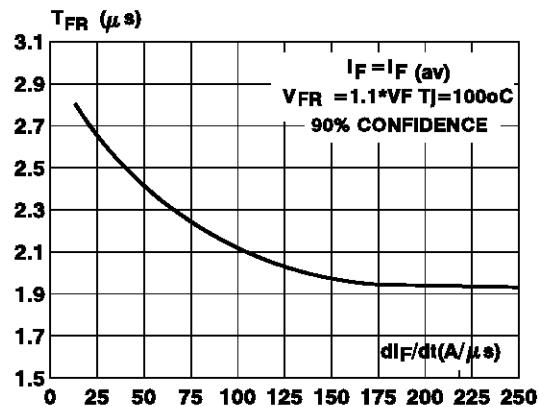
**Fig. 7:** Junction capacitance versus reverse voltage applied (typical values).



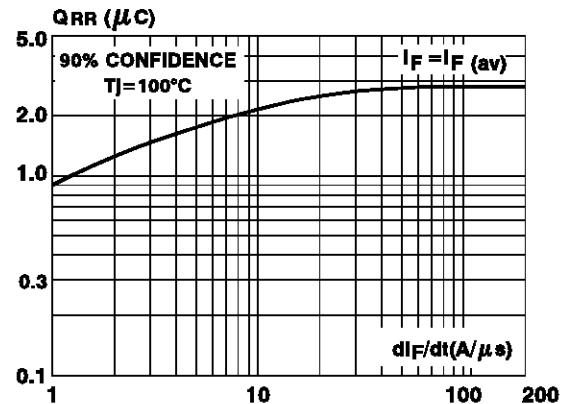
**Fig. 9:** Peak reverse current versus  $\text{d}I_F/\text{dt}$ .



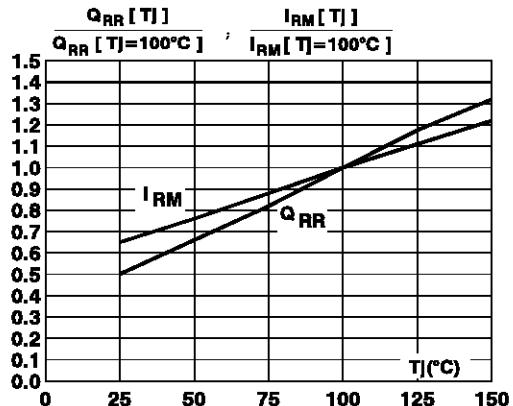
**Fig. 11:** Recovery time versus  $\text{d}I_F/\text{dt}$ .



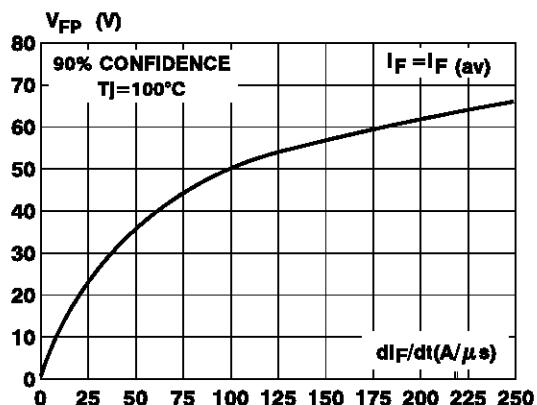
**Fig. 8:** Recovery charge versus  $\text{d}I_F/\text{dt}$ .



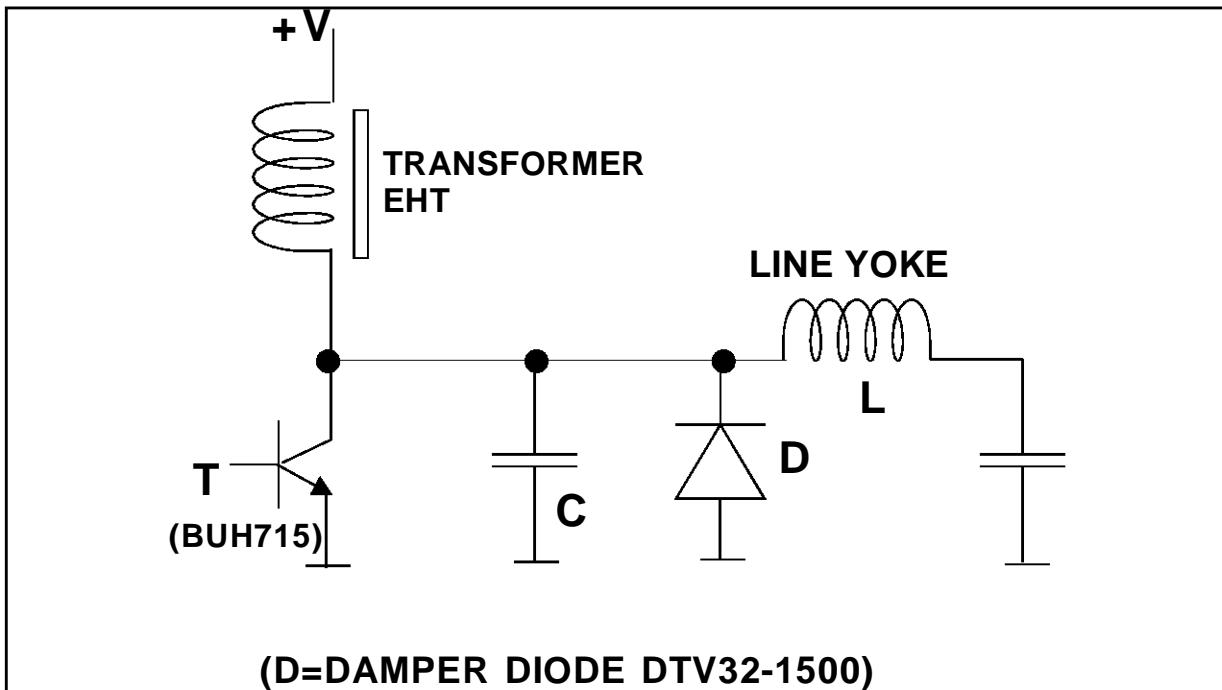
**Fig. 10:** Dynamic parameters versus junction temperature.



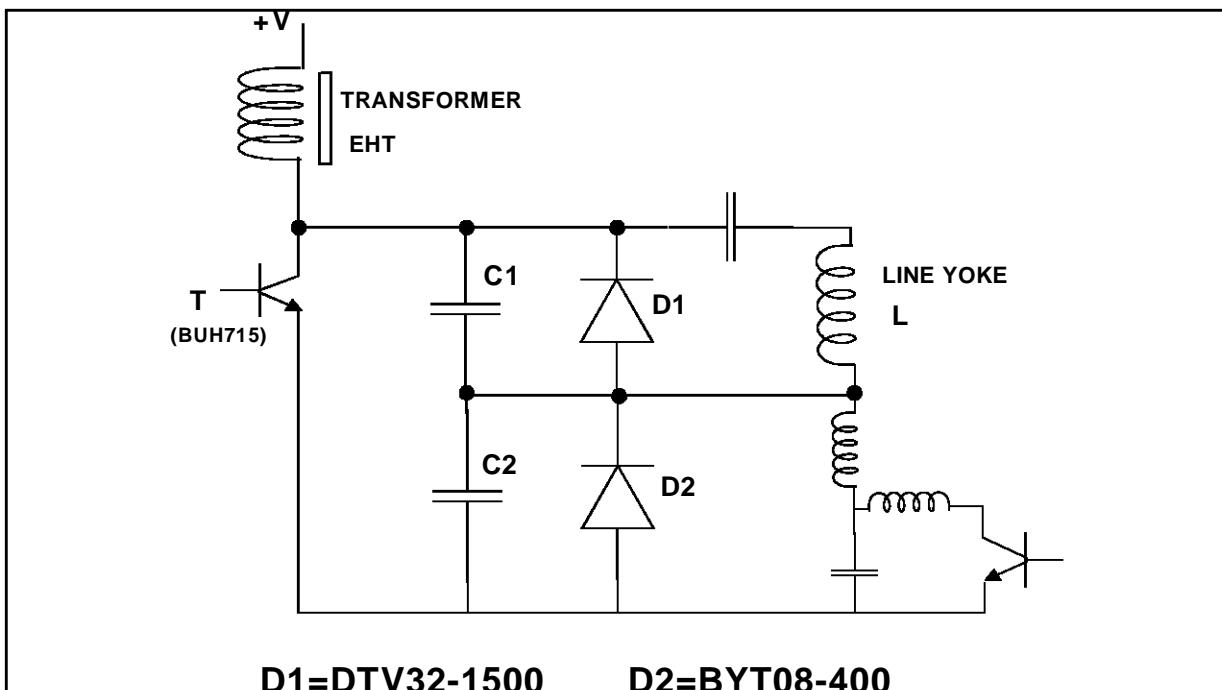
**Fig. 12:** Peak forward voltage versus  $\text{d}I_F/\text{dt}$ .



## BASIC HORIZONTAL DEFLECTION CIRCUIT

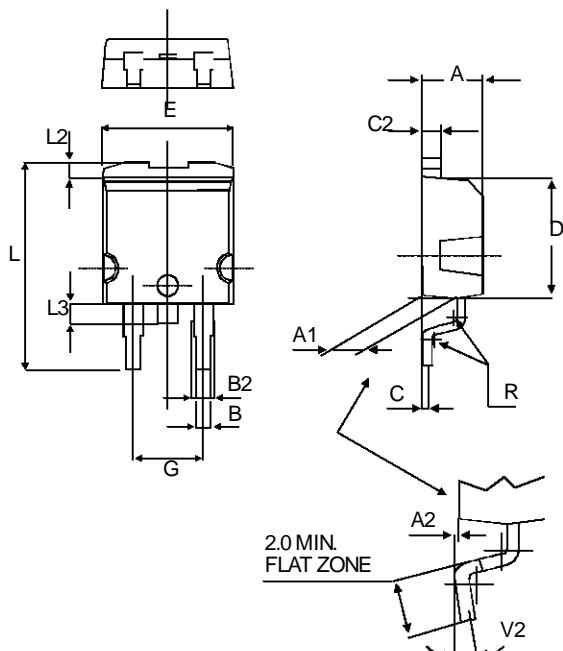


## BASIC E-W DIODE MODULATOR CIRCUIT



## DTV32G-1500B

### PACKAGE DATA D<sup>2</sup>PAK



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.30		4.60	0.169		0.181
A1	2.49		2.69	0.098		0.106
A2	0.03		0.23	0.001		0.009
B	0.70		0.93	0.027		0.037
B2	1.25		1.40	0.049		0.055
C	0.45		0.60	0.017		0.024
C2	1.21		1.36	0.047		0.054
D	9.00		9.35	0.354		0.368
E	10.00		10.28	0.393		0.405
G	4.88		5.28	0.192		0.208
L	15.00		15.85	0.590		0.624
L2	1.27		1.37	0.050		0.054
L3	1.40		1.75	0.055		0.069
R		0.40			0.016	
V2	0°		8°	0°		8°

**Marking:** DTV32G-1500B

Cooling method : C.

Weight : 1.8 g.

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