

(CRT HORIZONTAL DEFLECTION)
HIGH VOLTAGE DAMPER DIODE

MAIN PRODUCTS CHARACTERISTICS

$I_{F(AV)}$	6 A
V_{RRM}	1500 V
V_F (max)	1.5 V

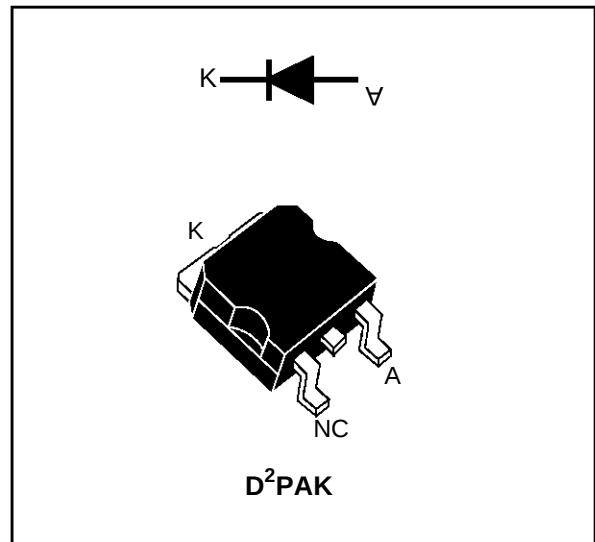
FEATURES AND BENEFITS

- HIGH BREAKDOWN VOLTAGE CAPABILITY
- HIGH FREQUENCY OPERATION
- SPECIFIED TURN ON SWITCHING CHARACTERISTICS
- TYPICAL TOTAL LOSSES: 3.5 W
($I_{Fpeak} = 6$ 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 D²PAK.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter		Value	Unit
$I_{F(RMS)}$	RMS forward current		15	A
V_{RRM}	Repetitive Peak Reverse Voltage		1500	V
V_{RWM}	Reverse Working Voltage		1350	V
$I_{F(AV)}$	Average forward current $\delta = 0.5$	$T_c = 130^\circ\text{C}$	6	A
I_{FSM}	Surge Non Repetitive Forward Current	$t_p = 10\text{ms}$ sinusoidal	100	A
T_{stg}	Storage Temperature		- 40 to 150	$^\circ\text{C}$
T_j	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 *	$V_R = V_{RWM}$	$T_j = 25^\circ\text{C}$			200	μA
		$T_j = 100^\circ\text{C}$			1	mA
V_F **	$I_F = 6\text{A}$	$T_j = 25^\circ\text{C}$			1.5	V
		$T_j = 100^\circ\text{C}$			1.4	

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

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

TURN-ON SWITCHING CHARACTERISTICS

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

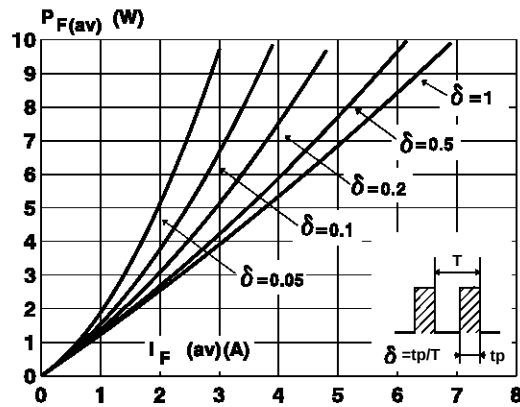


Fig. 2: Peak current versus form factor.

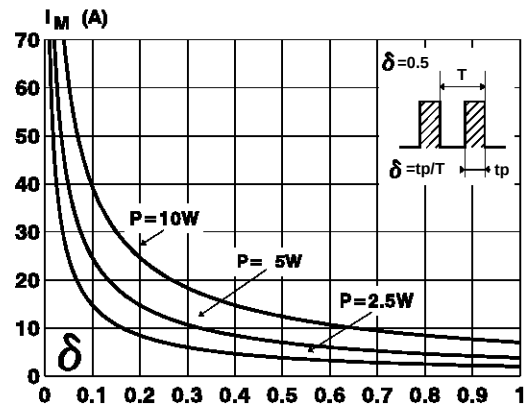


Fig. 3: Average current versus ambient temperature.

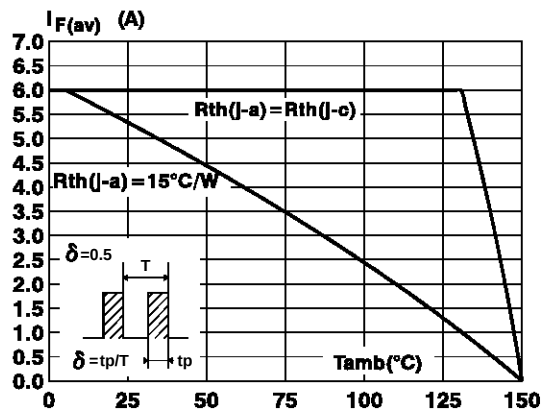


Fig. 4: Non repetitive surge peak forward current versus overload duration (maximum values).

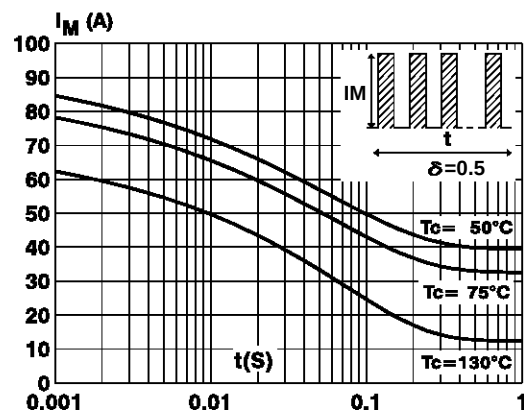


Fig. 5: Relative variation of thermal transient impedance junction to case versus pulse duration.

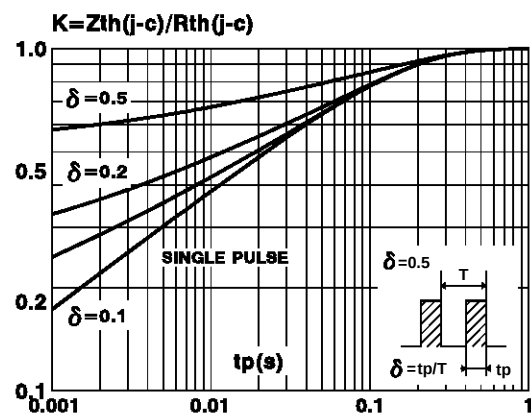


Fig. 6: Forward voltage drop versus forward current (maximum values).

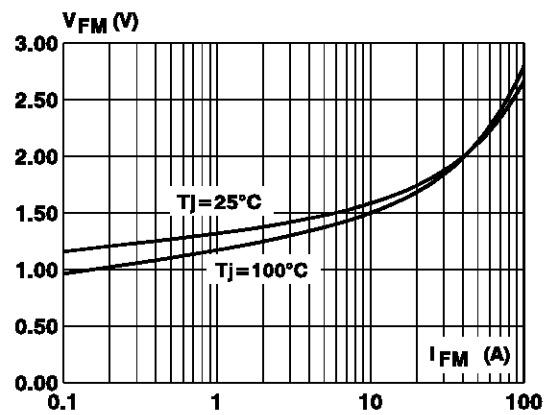


Fig. 7: Junction capacitance versus reverse voltage applied (typical values).

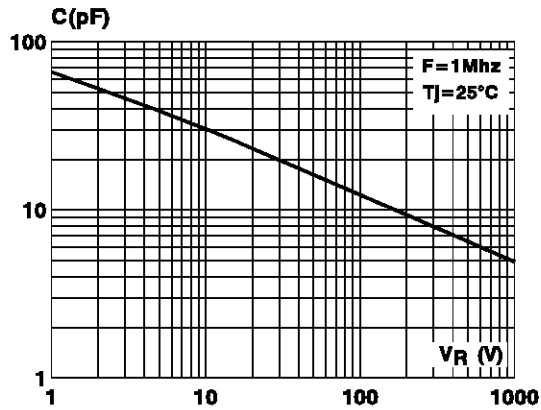


Fig. 8: Recovery charge versus dI_F/dt .

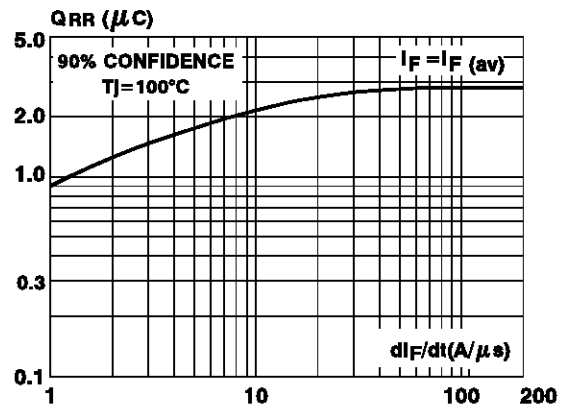


Fig. 9: Peak reverse current versus dI_F/dt .

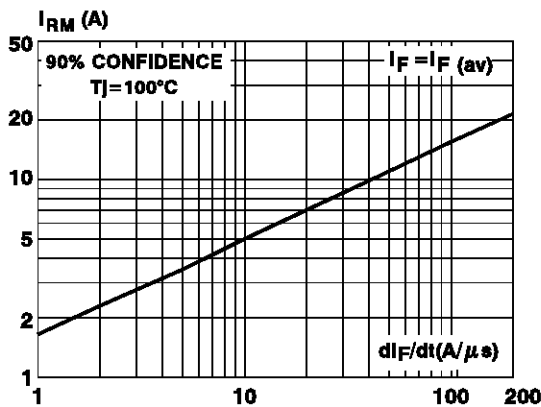


Fig. 10: Dynamic parameters versus junction temperature.

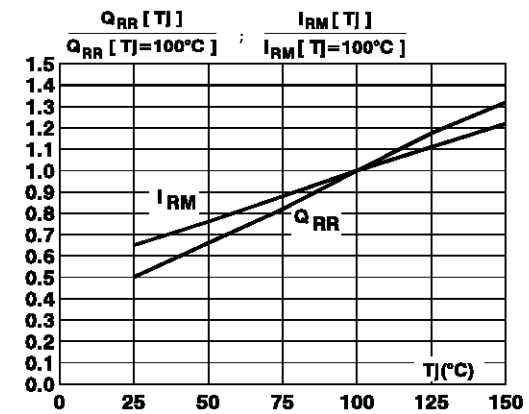


Fig. 11: Recovery time versus dI_F/dt .

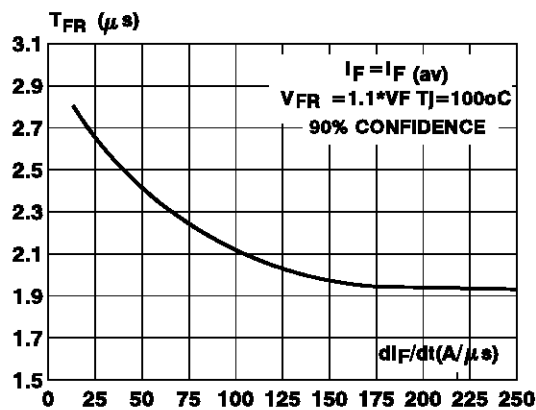
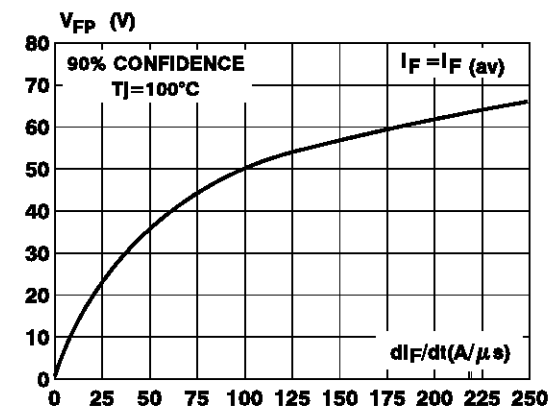
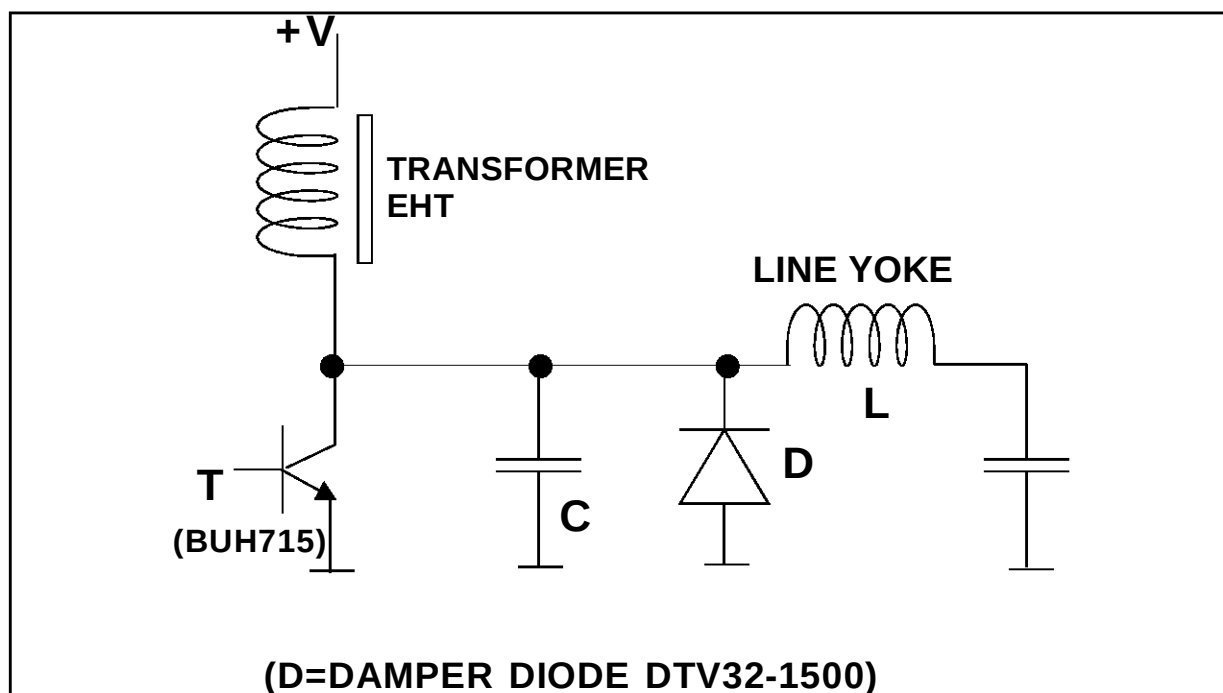


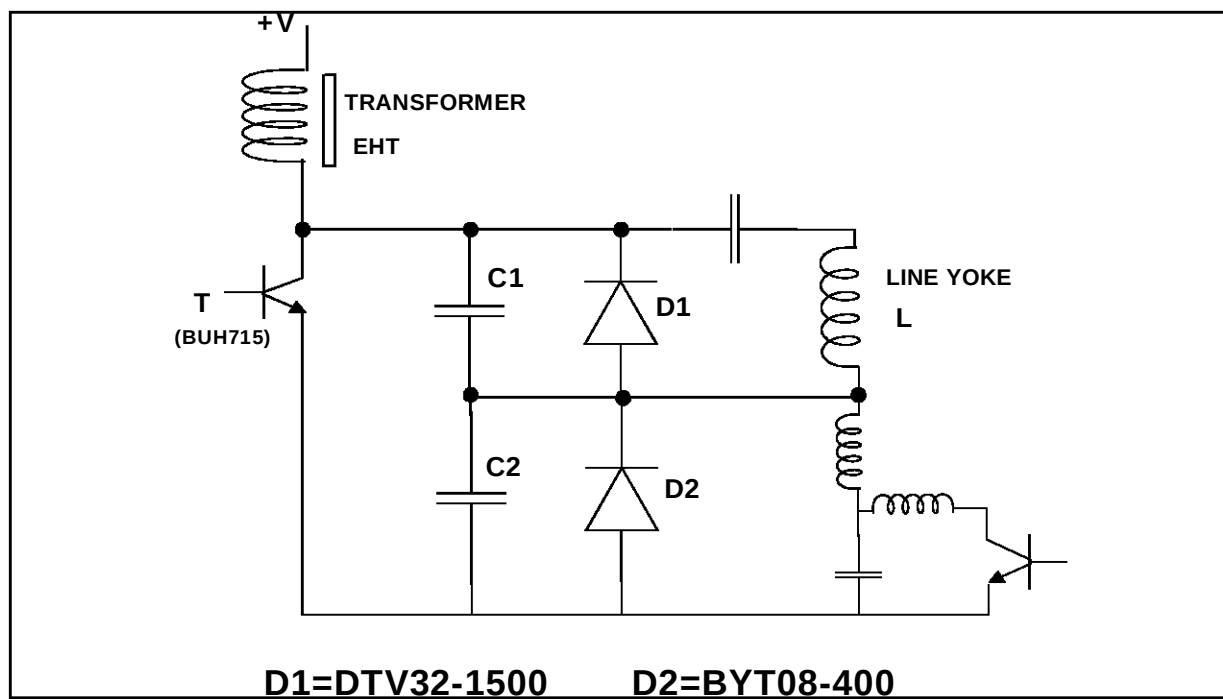
Fig. 12: Peak forward voltage versus dI_F/dt .



BASIC HORIZONTAL DEFLECTION CIRCUIT

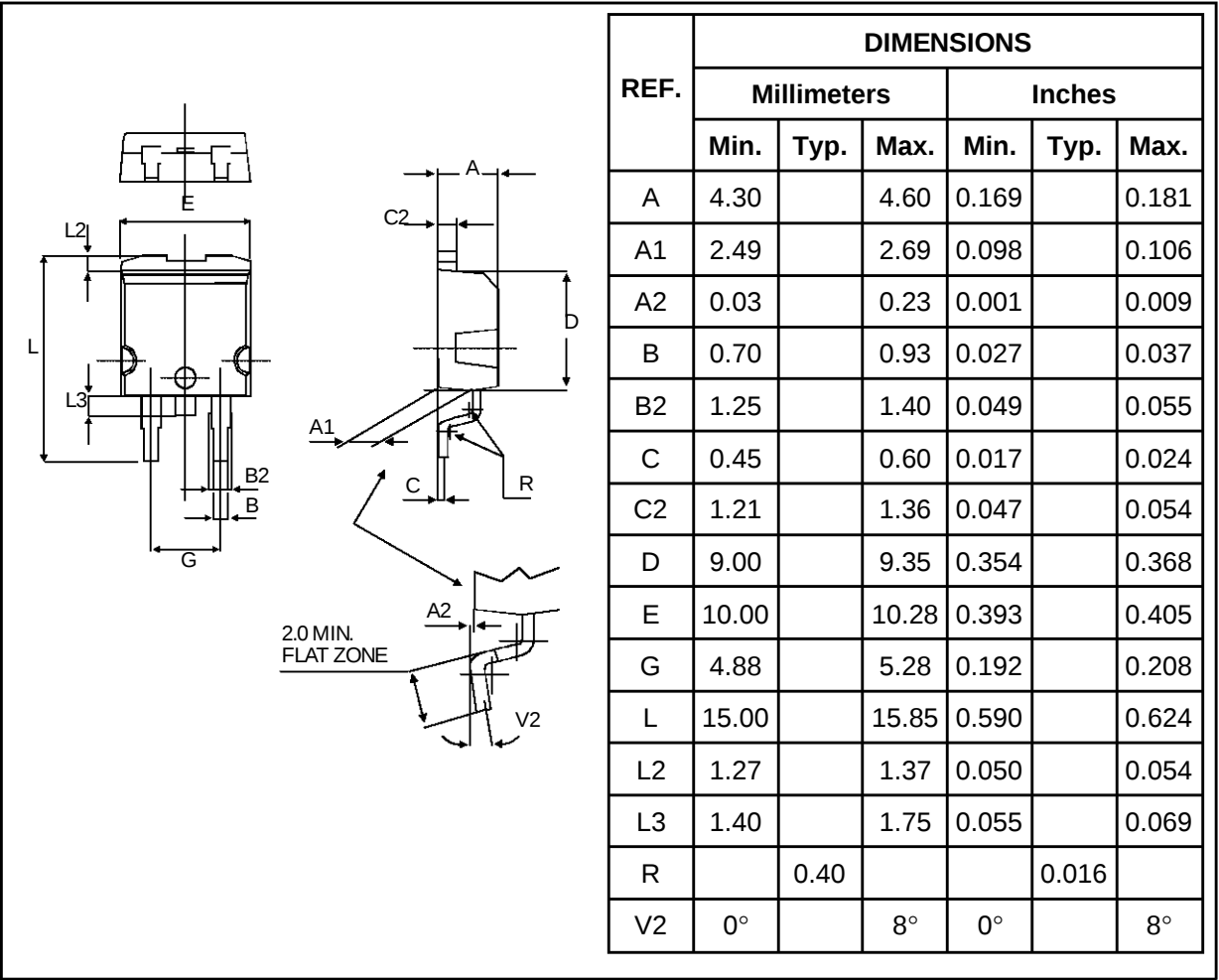


BASIC E-W DIODE MODULATOR CIRCUIT



DTV32G-1500B

PACKAGE DATA
D²PAK



Marking: DTV32G-1500B
Cooling method : C.
Weight : 1.8 g.

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