

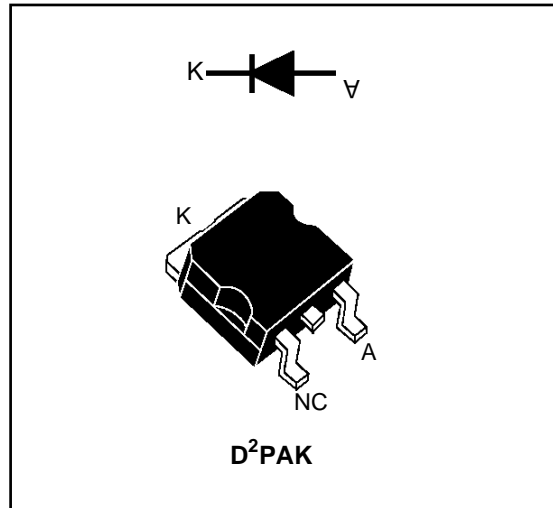
(CRT HORIZONTAL DEFLECTION)
HIGH VOLTAGE DAMPER DIODE

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

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

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.

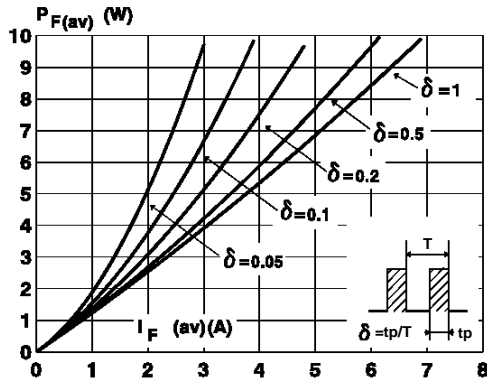


Fig. 2: Peak current versus form factor.

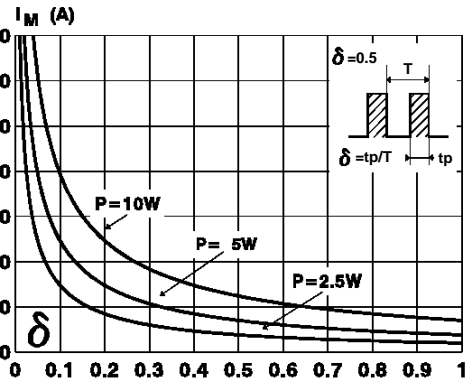


Fig. 3: Average current versus ambient temperature.

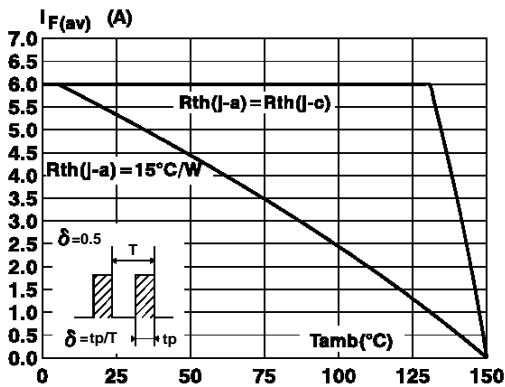


Fig. 4: Non repetitive surge peak forward current versus overload duration (maximum values).

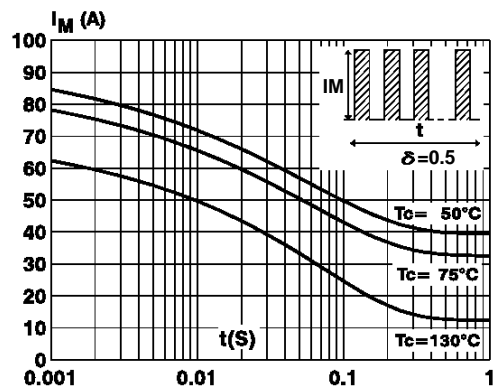


Fig. 5: Relative variation of thermal transient impedance junction to case versus pulse duration.

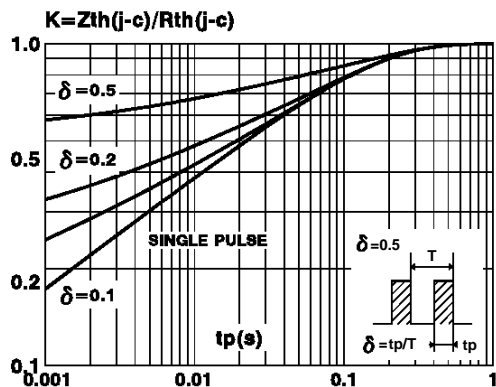


Fig. 6: Forward voltage drop versus forward current (maximum values).

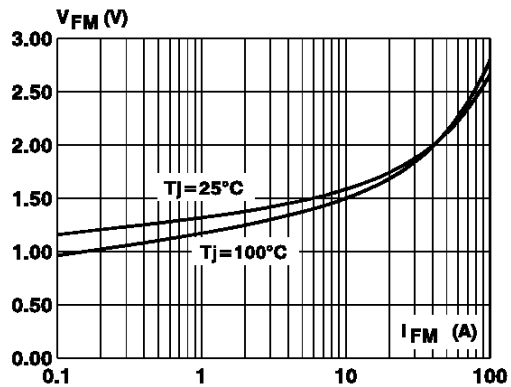


Fig. 7: Junction capacitance versus reverse voltage applied (typical values).

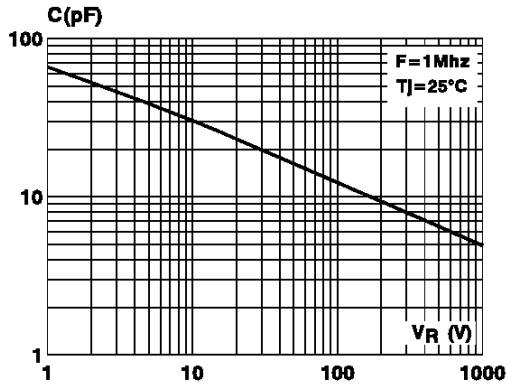


Fig. 8: Recovery charge versus dI_F/dt .

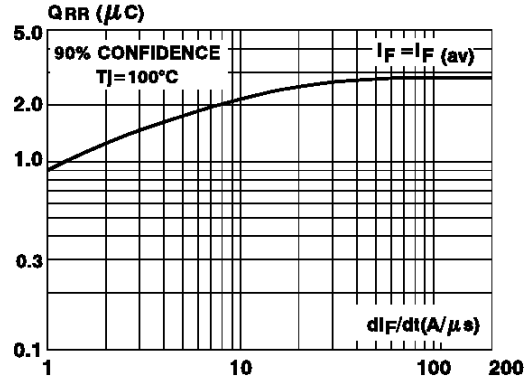


Fig. 9: Peak reverse current versus dI_F/dt .

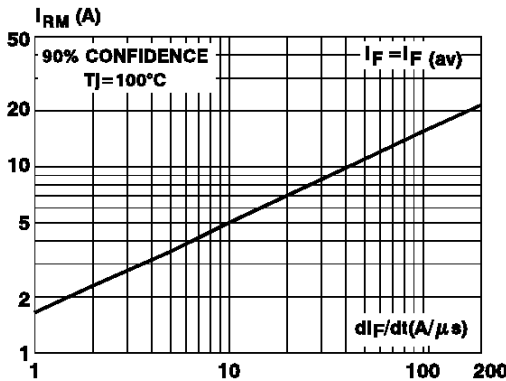


Fig. 10: Dynamic parameters versus junction temperature.

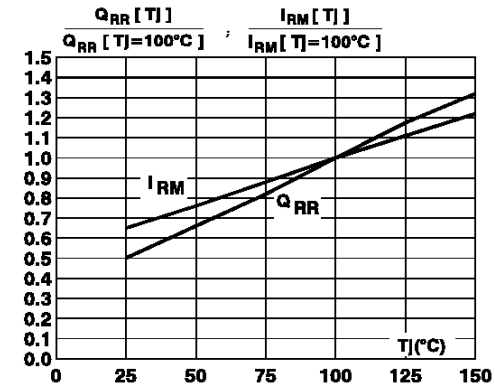


Fig. 11: Recovery time versus dI_F/dt .

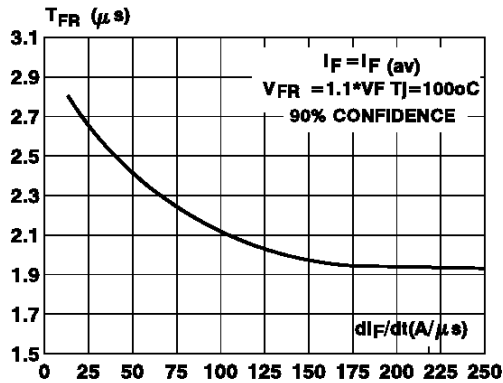
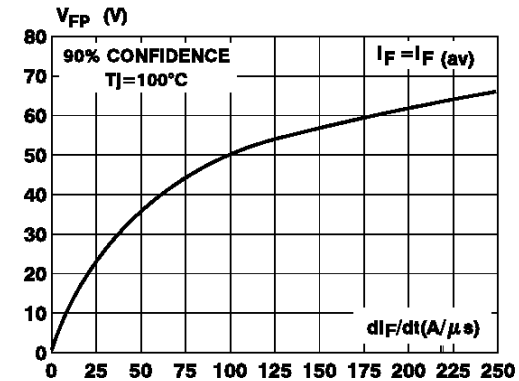
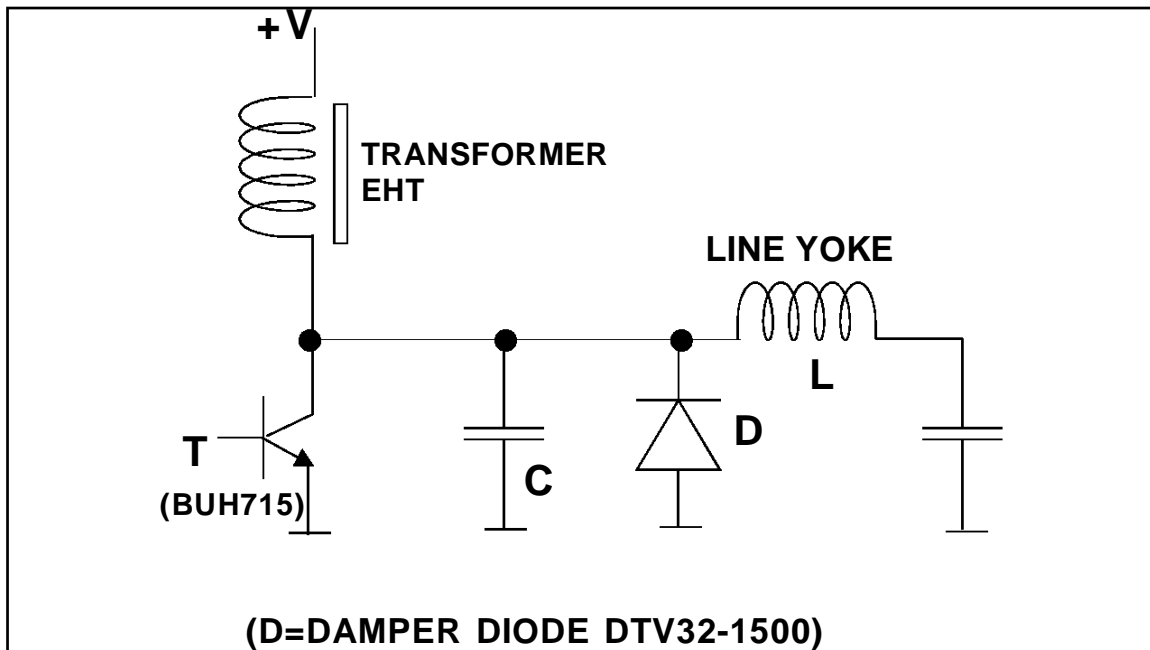


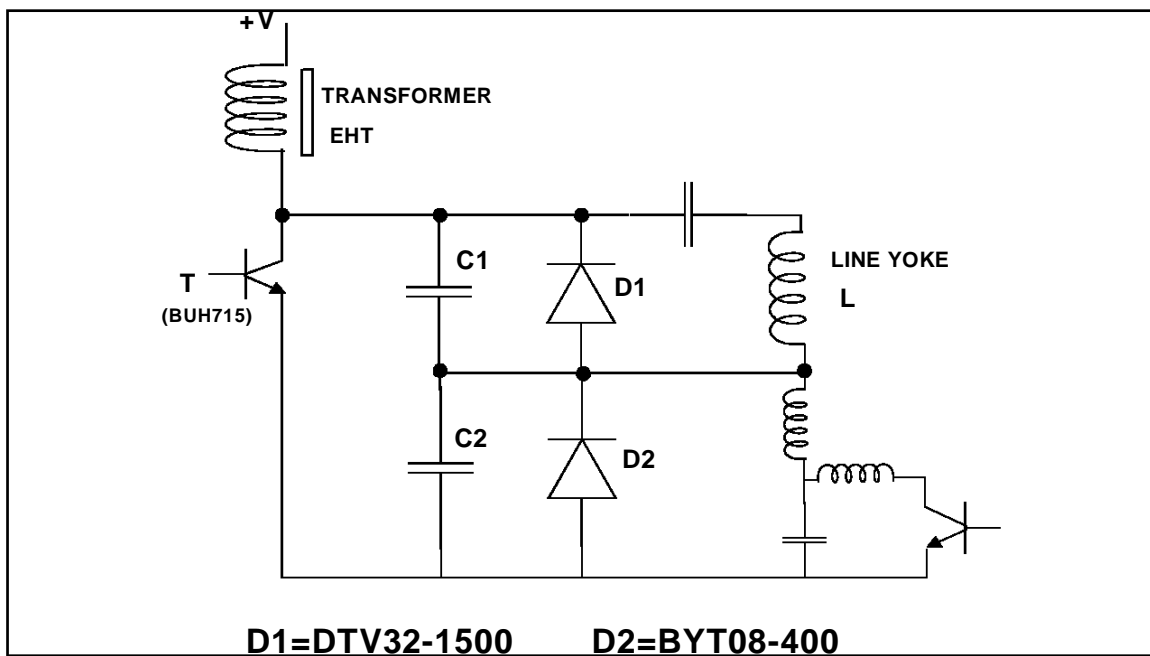
Fig. 12: Peak forward voltage versus dI_F/dt .



BASIC HORIZONTAL DEFLECTION CIRCUIT

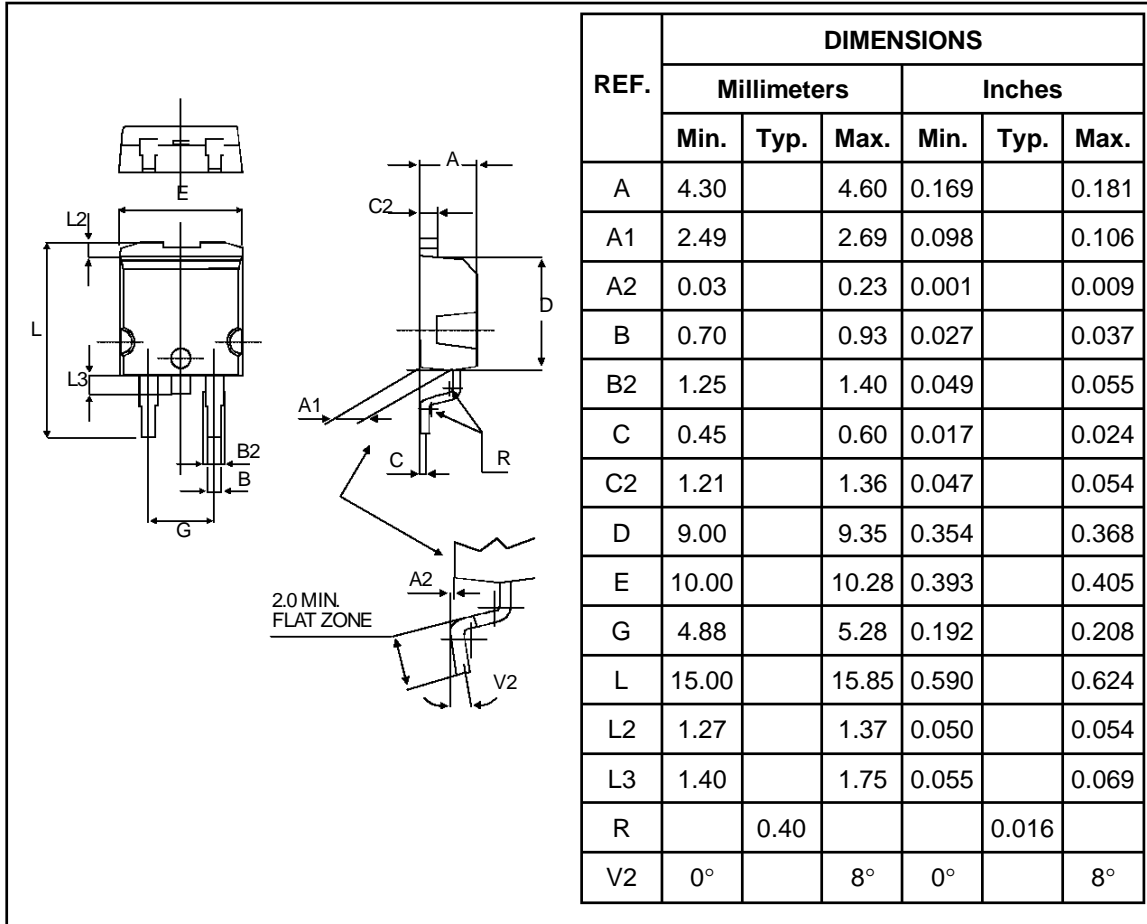


BASIC E-W DIODE MODULATOR CIRCUIT



DTV32G-1500B

PACKAGE DATA
D²PAK



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

Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1997 SGS-THOMSON Microelectronics - Printed in Italy - All rights reserved.

SGS-THOMSON Microelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - France - Germany - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands - Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A.