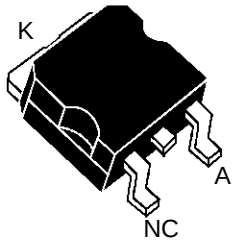
SGS-THOMSON MICROELECTRONICS

DTV32G-1500B

(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**



D^2PAK

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 D^2PAK.

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 δ = 0.5	Tc=130°C	6	A
I_{FSM}	Surge Non Repetitive Forward Current	tp = 10ms sinusoidal	100	A
T_{stg}	Storage Temperature		- 40 to 150	°C
T_j	Maximum Operating JunctionTtemperature		150	

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 *	$V_R = V_{RWM}$	Tj = 25°C			200	µA
		Tj = 100°C			1	mA
V_F **	I_F =6A	Tj = 25°C			1.5	V
		Tj = 100°C			1.4	

pulse test : * tp = 5 ms , δ < 2%
** tp = 380 µs, δ < 2%

RECOVERY CHARACTERISTICS

Symbol	Test Conditions		Min	Typ	Max	Unit
t_{rr} (1)	Tj = 25°C	I_F = 1 A dI_F/dt = -50A/µs V_R =30V			175	ns
		I_F = 1 A dI_F/dt = -15A/µs V_R =30V		250		
t_{rr}	Tj = 25°C	IF = 1 A I_R = 100mA		140		ns

TURN-ON SWITCHING CHARACTERISTICS

Symbol	Test Conditions		Min	Typ	Max	Unit
t_{fr} (2)	Tj = 100°C	I_F = 6 A dI_F/dt = 80 A/µs V_{FR} = 2 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 :
$V_F = 1.2 + 0.034\ I_F$ $P = 1.2 \times I_{F(av)} + 0.034 \times I_F{}^2{}_{(RMS)}$

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

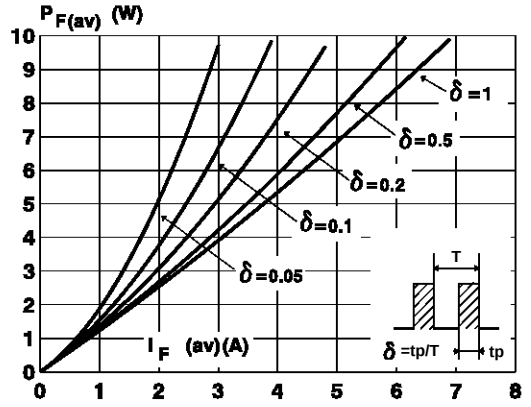


Fig. 2: Peak current versus form factor.

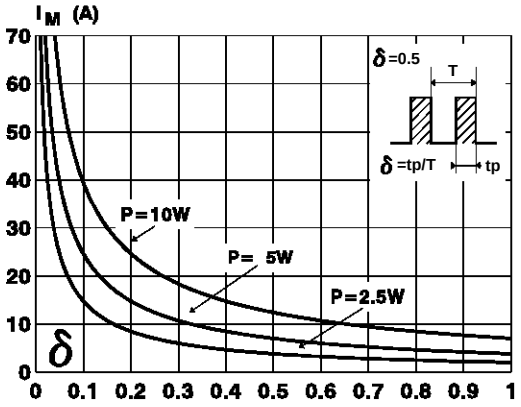


Fig. 3: Average current versus ambient temperature.

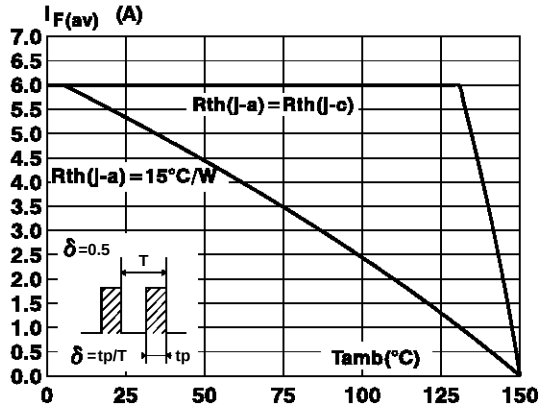


Fig. 4: Non repetitive surge peak forward current versus overload duration (maximum values).

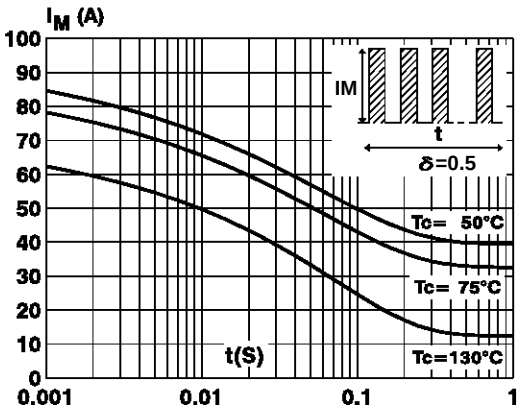


Fig. 5: Relative variation of thermal transient impedance junction to case versus pulse duration.

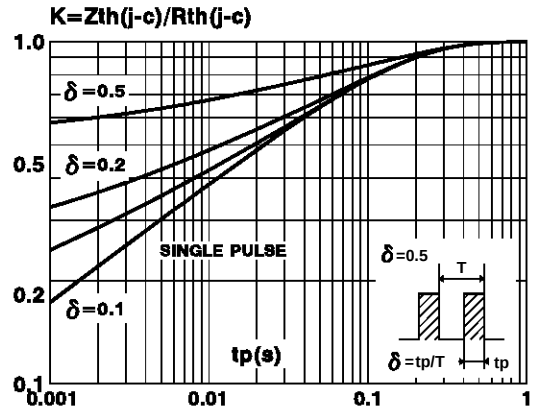


Fig. 6: Forward voltage drop versus forward current (maximum values).

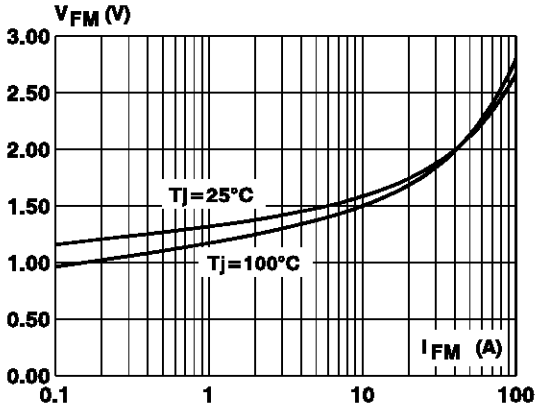


Fig. 7: Junction capacitance versus reverse voltage applied (typical values).

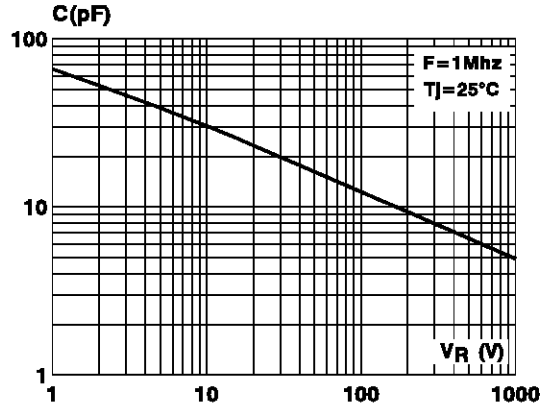


Fig. 8: Recovery charge versus dI_F/dt.

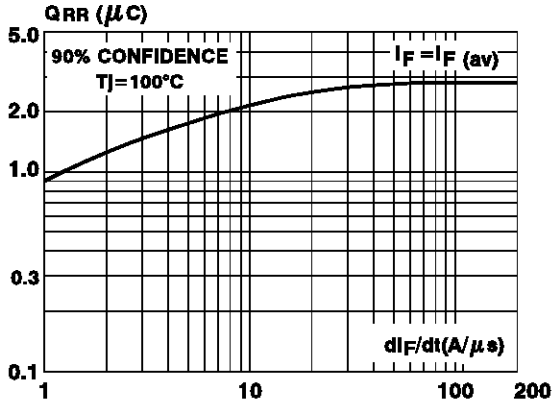


Fig. 9: Peak reverse current versus dI_F/dt.

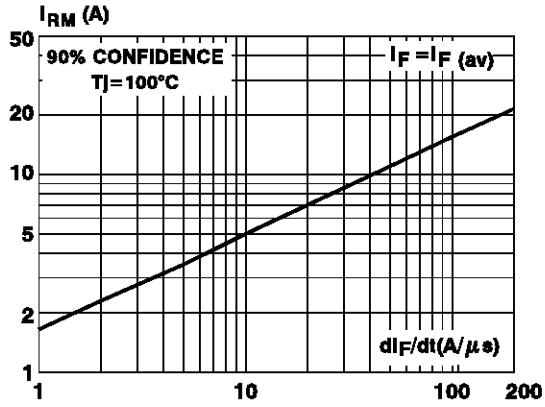


Fig. 10: Dynamic parameters versus junction temperature.

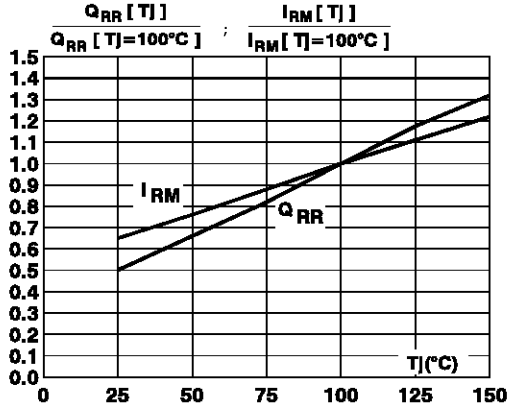


Fig. 11: Recovery time versus dI_F/dt.

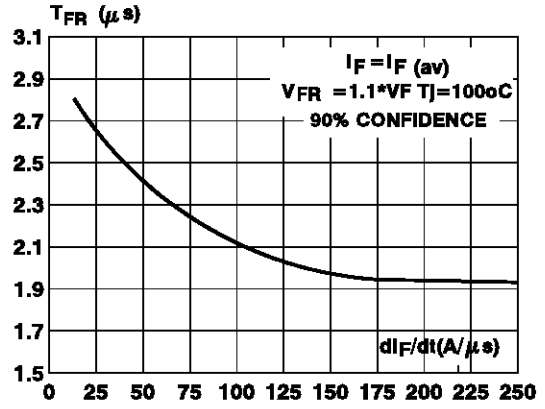
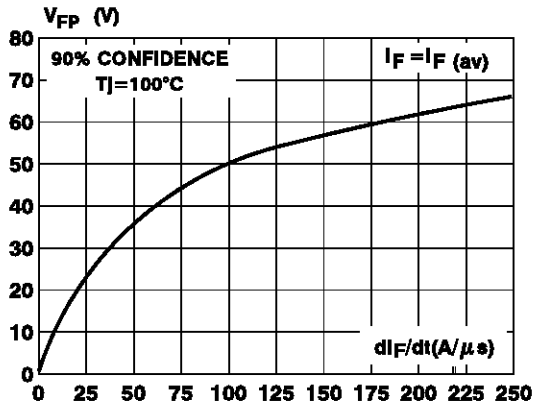
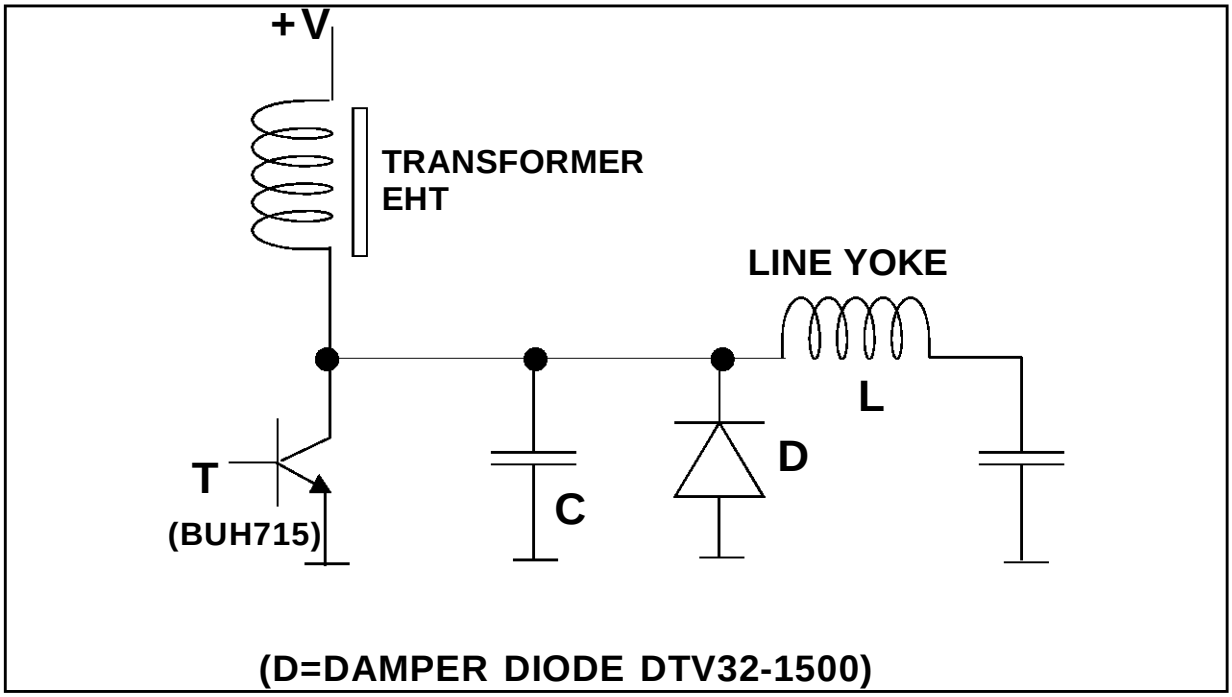


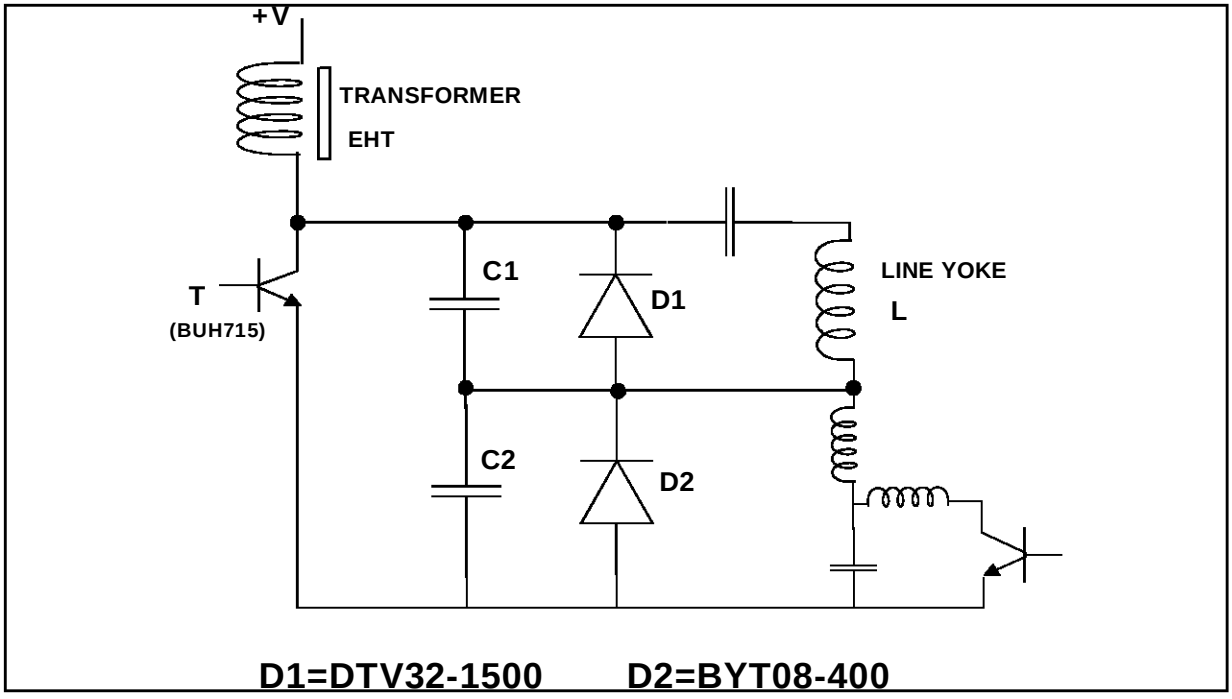
Fig. 12: Peak forward voltage versus dI_F/dt.



BASIC HORIZONTAL DEFLECTION CIRCUIT

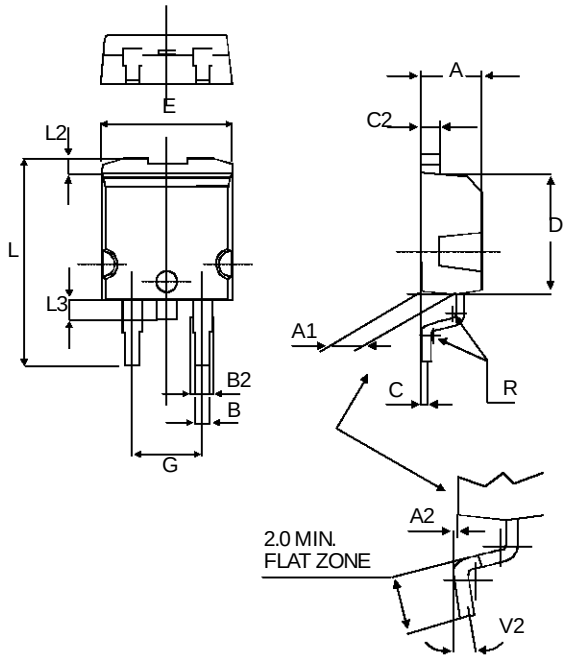


BASIC E-W DIODE MODULATOR CIRCUIT



PACKAGE DATA

D^2PAK



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.