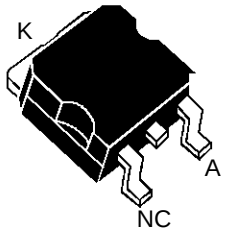
SGS-THOMSON MICROELECTRONICS

DTV32G-1500B

(CRT HORIZONTAL DEFLECTION) HIGH VOLTAGE DAMPER DIODE

FEATURES

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



D^2PAK
(Plastic)

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
$I_{F(AV)}$	Average forward current δ = 0.5	Tc=130°C	6	A
I_{FSM}	Surge non repetitive forward current	tp=10ms sinusoidal	100	A
Tstg Tj	Storage and junction temperature range		- 40 to + 150 - 40 to + 150	°C °C

Symbol	Parameter	Value	Unit
V_{RRM}	Repetitive peak reverse voltage	1500	V
V_{RWM}	Reverse working voltage	1350	V

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
Rth (j-c)	Junction to case	2	°C/W

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

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

Pulse test : * tp = 5 ms, duty cycle < 2 %
** tp = 380 µs, duty cycle < 2 %

RECOVERY CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
trr (1)	T_j = 25°C	I_F = 1 A V_R = 30 V	dI_F/dt = -50 A/µs			175	ns
trr (1)	T_j = 25°C		dI_F/dt = -15 A/µs		250		ns
trr	T_j = 25°C	I_F = 100mA	I_R = 100mA		140		ns

TURN ON SWITCHING CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
t_{FR} (2)	T_j = 100°C	I_F = 6 A	dI_F/dt = 80 A/µs		0.6		µs
V_{FP} (2)		V_{FR} = 2 V			39		V

(1)Test following Jedec Standard
(2) Test representative of the application

To evaluate the conduction losses use the following equations :
$V_F = 1.2 + 0.034\ I_F$ $\quad P = 1.2 \times I_{F(AV)} + 0.034 \times I_{F^2(RMS)}$

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

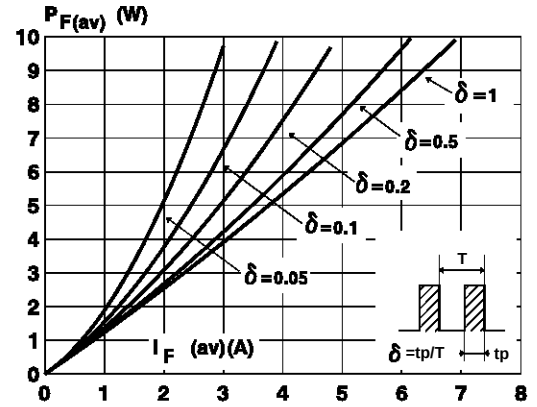


Fig. 2 : Peak current versus form factor.

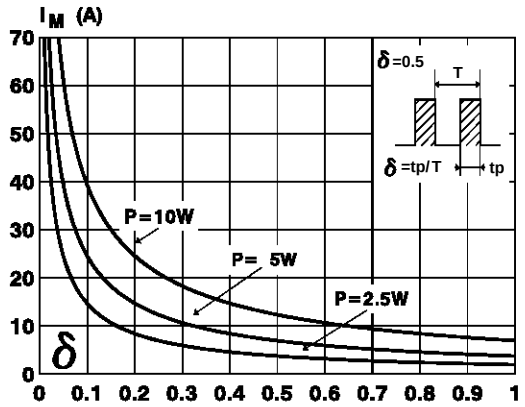


Fig. 3 : Average current versus ambient temperature. (duty cycle : 0.5)

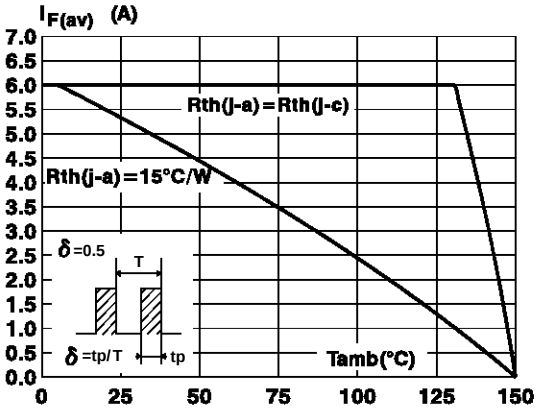


Fig. 4 : Non repetitive surge peak forward current versus overload duration. (Maximum values)

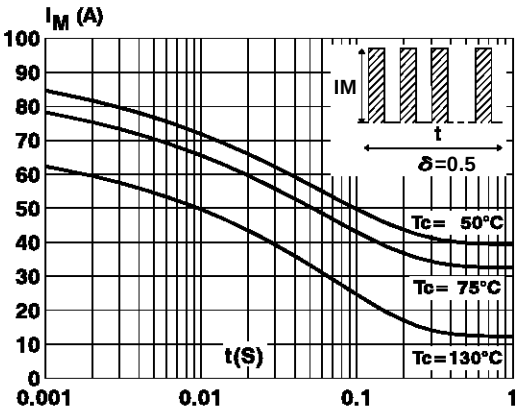


Fig.5 : Relative variation of thermal transient impedance junction to case versus pulse duration.

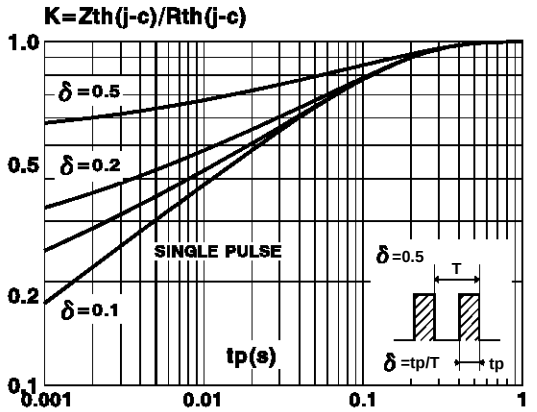


Fig.6 : Forward voltage drop versus forward current. (Maximum values)

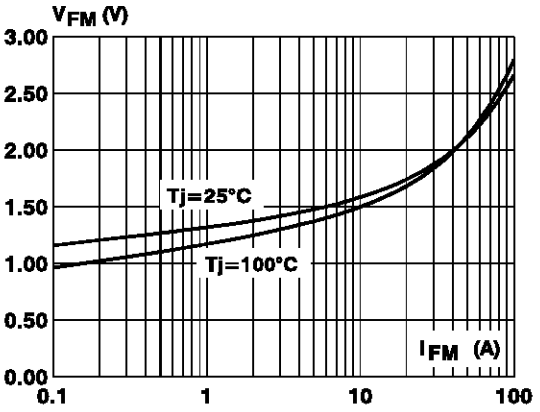


Fig.7 : Junction capacitance versus reverse voltage applied. (Typical values)

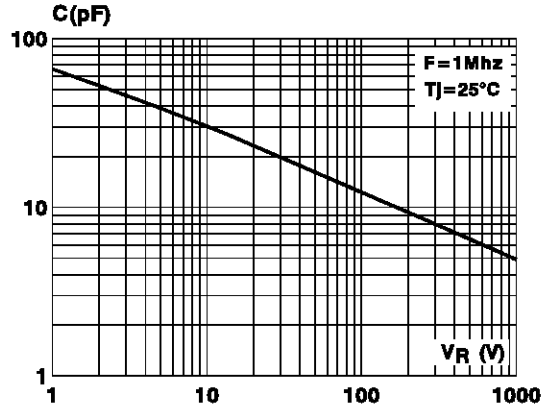


Fig.8 : Recovery charge versus dI_F/dt.

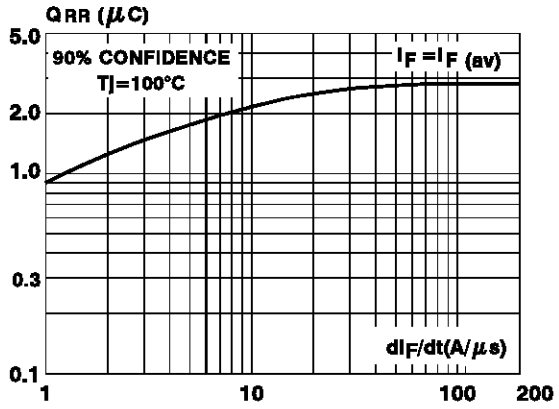


Fig.9 : Peak reverse current versus dI_F/dt.

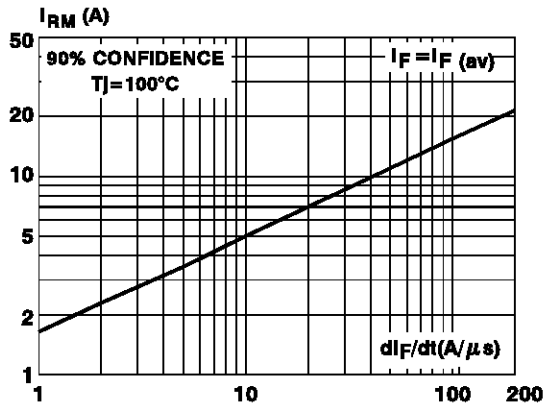


Fig.10 : Dynamic parameters versus junction temperature.

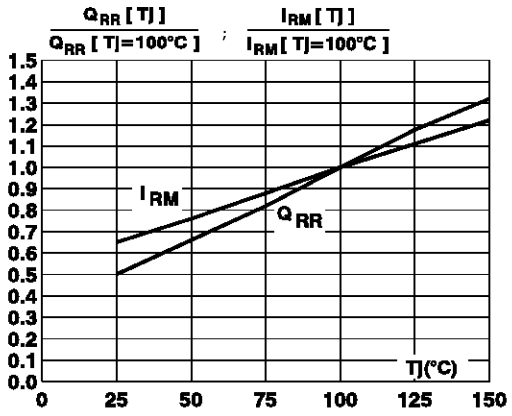


Fig.11 : Recovery time versus dI_F/dt.

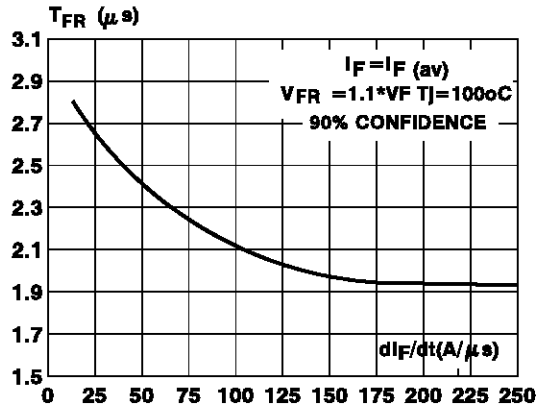
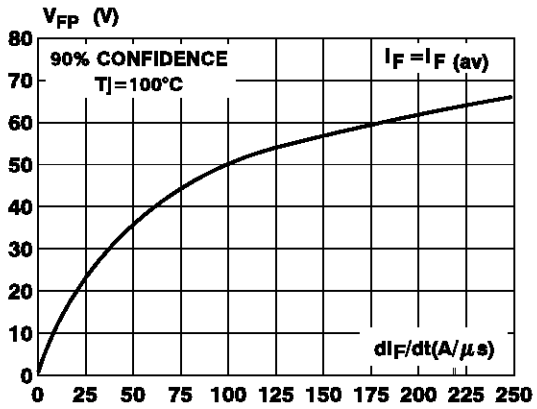
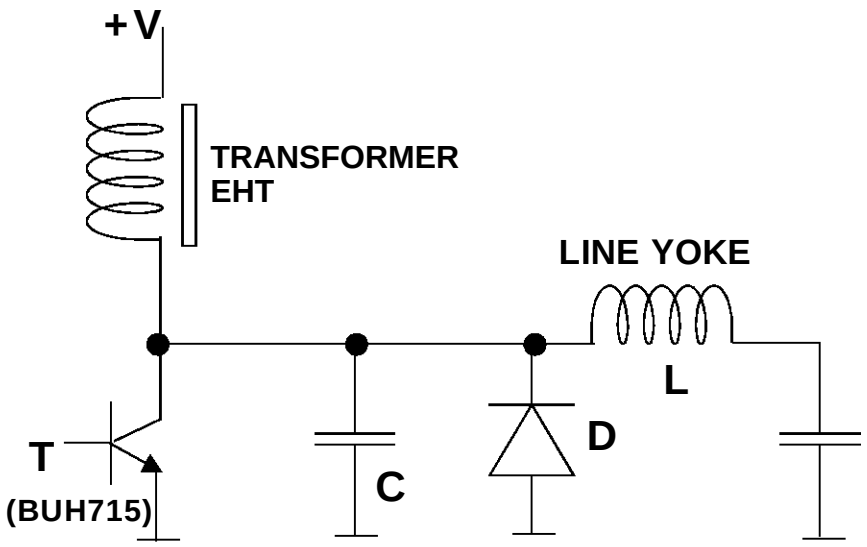


Fig.12 : Peak forward voltage versus dI_F/dt.

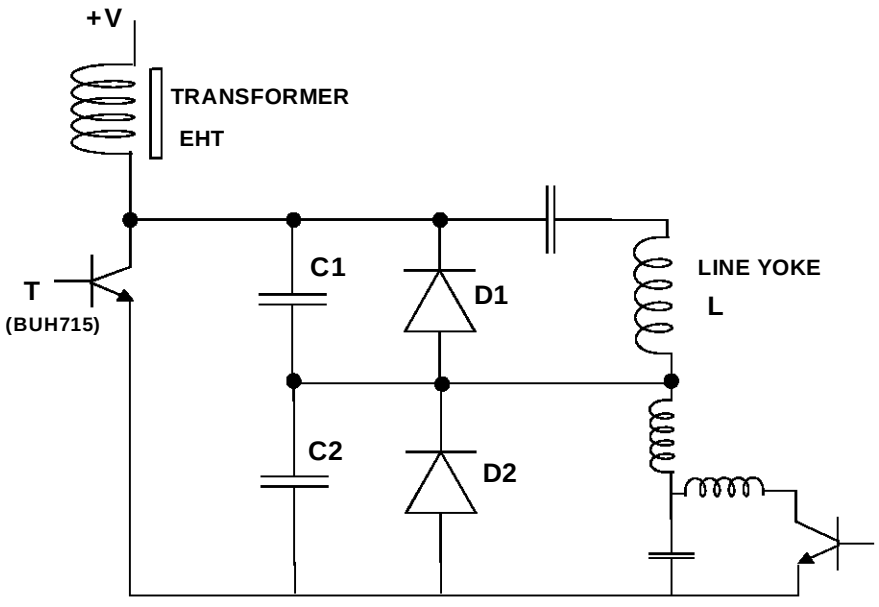


BASIC HORIZONTAL DEFLECTION CIRCUIT



(D=DAMPER DIODE DTV32-1500)

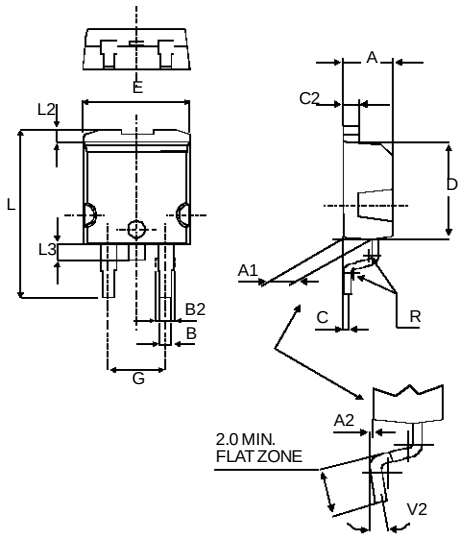
BASIC E-W DIODE MODULATOR CIRCUIT



D1=DTV32-1500 D2=BYT08-400

PACKAGE MECHANICAL DATA

D^2PAK (Plastic)



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	

Cooling method : C
Marking : Type number
Weight : 1.8 g