



(CRT HORIZONTAL DEFLECTION)
MODULATION DIODE

MAIN PRODUCT CHARACTERISTICS

I_F peak	3A
V_{RRM}	400V
t_{rr}	22ns
V_F	1.35V

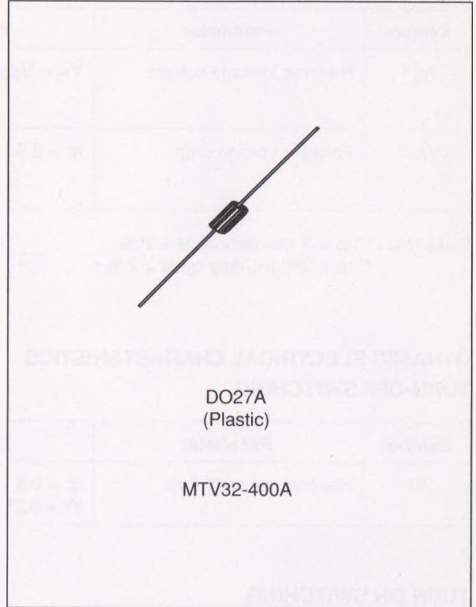
FEATURES

- PRODUCT SPECIFIC TO HORIZONTAL DEFLECTION
- HIGH REVERSE VOLTAGE
- LOW SWITCHING LOSSES DUE TO SMALL RECOVERY CHARGES

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 DO27A and is intended for use as a MODULATION diode in deflection circuitry with east-west correction.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter		Value	Unit
V _{RRM}	Repetitive peak reverse voltage		400	V
V _{RWM}	Reverse working voltage		400	V
I _F peak	Peak forward current (1)	T _{amb} =130°C (2)	3	A
I _{FRM}	Repetitive peak forward current	t _p ≤ 10μs	60	A
I _{FSM}	Surge non repetitive forward current	t _p =10ms sinusoidal	60	A
T _{stg} T _j	Storage and junction temperature range		- 40 to + 150 - 40 to + 150	°C °C

(1) δ = 0.5 and triangular waveform

(2) on infinite heatsink with 10mm lead length

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
Rth (j-a)	Junction to ambient (*)	20	°C/W

(*) on infinite heatsink with 10mm lead length

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _R *	Reverse leakage current	V _R = V _{RWM}	T _j = 25°C		20	μA
			T _j = 100°C		0.5	mA
V _F **	Forward voltage drop	I _F = 3 A	T _j = 25°C		1.45	V
			T _j = 100°C		1.35	

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

** tp = 380 μs, duty cycle < 2 %

DYNAMIC ELECTRICAL CHARACTERISTICS

TURN-OFF SWITCHING

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
t _{rr}	Reverse recovery time	I _F = 0.5 A I _{rr} = 0.25 A I _R = 1 A T _j = 25°C			22	ns

TURN ON SWITCHING

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
t _{FR}	Forward recovery time	I _F = 3 A di _F /dt = 100 A/μs Measured at 1.1 x V _F T _j = 25°C			0.1	μs
V _{FP}	Peak forward voltage				17	V

To evaluate the conduction losses, in case of triangular current, use the following equation :

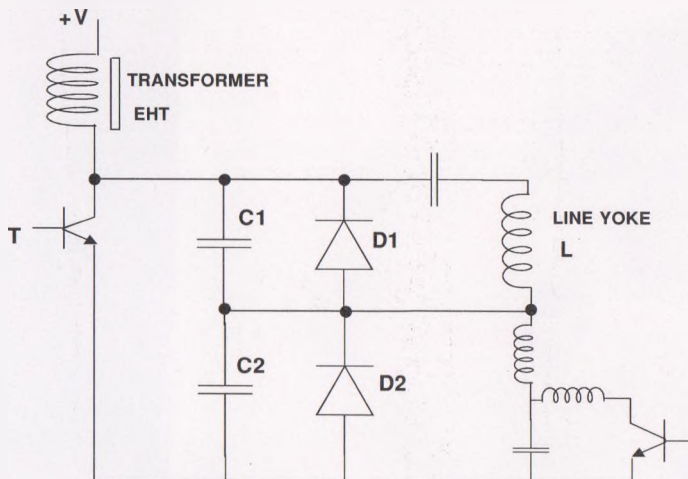
$$P = \frac{1.17 \times I_P \times \delta}{2} + \frac{0.06 \times I_P^2 \times \delta}{3}$$

δ : duty cycle

I_P : Peak current

for I_P = 3A and δ = 0.5, P = 0.97 W

BASIC E-W DIODE MODULATOR CIRCUIT



D1=DTV32-1000A D2=MTV32-400A