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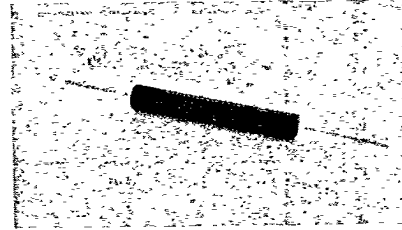
DLS 089

High Voltage Diode H1812

T-23-05

June 1982

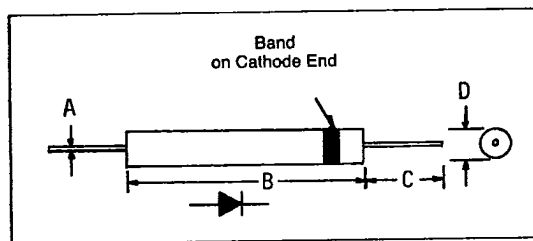
Designed for B & W TV High Voltage Rectifier up to
20 kVDC CRT Voltage
Avalanche Quality Rectifier Junctions
Molding Material Rated UL 94 V-0
Uniform Chip-to-Chip Recovery
Low RFI in TV Circuits
Platinum Doped



MAXIMUM RATINGS (At $T_A = 25^\circ\text{C}$ unless otherwise noted)	SYMBOL		UNITS
Repetitive Peak Reverse Voltage	V_{RRM}	30	kV
Forward Current (Average) See Fig. 1, 2 & 3	$I_{F(AV)}$	600	μA
Forward Current (Total RMS)	$I_{F(RMS)}$	4.6	mA
Repetitive Peak Forward Current	I_{FRM}	100	mA
Storage Temperature Range	T_{STG}	-40 to +150	$^\circ\text{C}$
Ambient Operating Temperature Range	T_A	-40 to +100	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (At $T_A = 25^\circ\text{C}$ unless otherwise noted)	SYMBOL		UNITS
Maximum Reverse Current at $V_R = 30\text{kV}$	I_R	1	μA
Maximum Forward Voltage Drop at $I_F = 5\text{mA}$	V_{FM}	85	V
Reverse Recovery Time, $I_F = 2\text{mA}$, $I_R = -4\text{mA}$ and $I_r(\text{rec}) = -1\text{mA}$ (Fig. 4)	t_{rr}	100 typical 175 Max.	nsec
Soldering Temperature: 260°C Max. for 10 sec. max. $1/16"$ from epoxy			

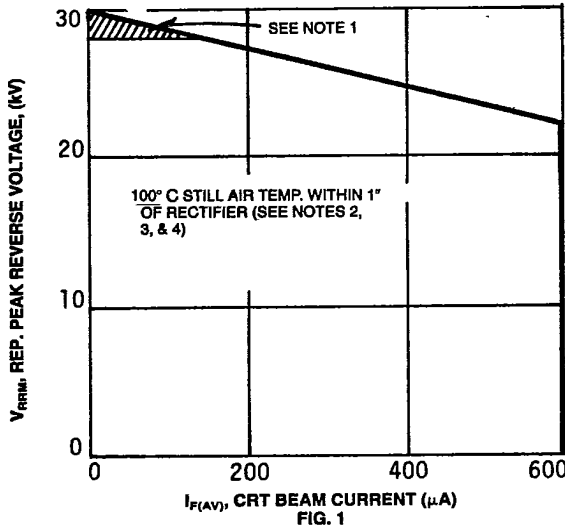
Encapsulating Considerations: See Varo Application Note
"Design Considerations for HV Silicon Rectifiers Integrated into Flyback Transformers."



LTR	INCHES	MILLIMETERS
A	.0236 Dia.	0.6 Dia.
B	1.5	38.10
C	.50 Min.	12.7 Min
D	.235	5.97

T-23-05

**DERATING FOR USE AS HIGH VOLTAGE RECTIFIER
IN 15,734 Hz DEFLECTION SYSTEM**



NOTES:

- 1) Operation in cross-hatched region should be limited to less than 5 min.
- 2) Air temp, measured with calibrated laboratory-grade alcohol thermometer.
- 3) Case temp. = 110°C when rectifier is operating at 22 kV V_{RRM} , 600 μA , in 95°C still air ambient. Case temp. measured with Tempil "Tempilaq" Temp. Indicating Liquid.

Source: Tempil Division
Big Three Industries, Inc.
South Plainfield NJ 07080

- 4) All temperatures presented here are approx. 10°C below known thermal runaway points. We recommend that customers intentionally raise the still air ambient temp on their designs to learn the actual thermal runaway point for their application. The final design should have at least 20% safety factor.

TYPICAL OPERATING CIRCUIT

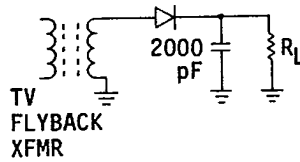


FIG. 2A

TYPICAL APPLIED VOLTAGE

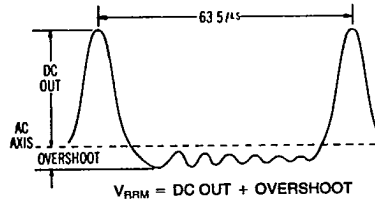


FIG. 2B

**REP. PEAK REV. VS:
AMBIENT TEMPERATURE**

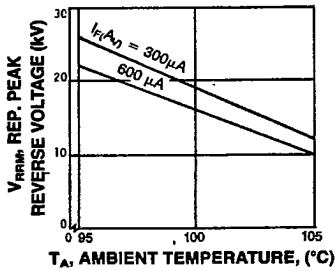


FIG. 3

RECOVERY WAVEFORM

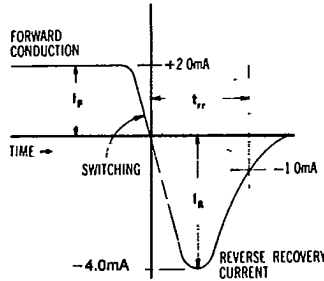


FIG. 4A

RECOVERY TEST CIRCUIT

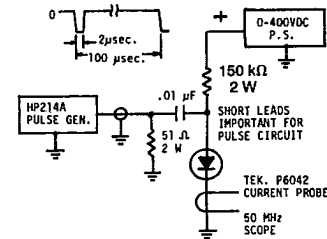


FIG. 4B