

SILICON E.H.T. SOFT-RECOVERY RECTIFIER DIODES*

E.H.T. rectifier diodes in glass envelopes intended for use in high-voltage applications such as the high-voltage supply of television receivers and monitors. The devices feature non-snap-off characteristics. Because of the small envelope, the diodes should be used in a suitable insulating medium (resin, oil or special arrangements in test cases).

QUICK REFERENCE DATA

		BY710	711
Working reverse voltage	V_{RW}	max. 14	16 kV
Repetitive peak reverse voltage	V_{RRM}	max. 17	19 kV
Average forward current	$I_F(AV)$	max. 3	mA
Junction temperature	T_j	max. 120	°C
Reverse recovery charge	Q_s	< 1	nC
Reverse recovery time	t_{rr}	typ. 0,2	µs

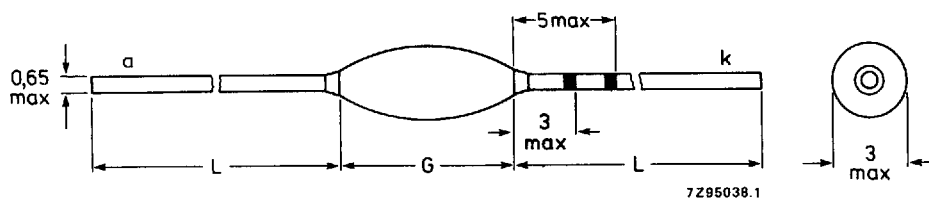
MECHANICAL DATA

Dimensions in mm

Fig. 1 SOD-61.

L = 28 min.

G = 11 max.



The cathode of the BY710 is indicated by two green bands on the lead.
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*See also "Custom made E.H.T. stacks" in section "General".

RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

		BY710	711
Working reverse voltage	V_{RW}	max. 14	16 kV
Repetitive peak reverse voltage	V_{RRM}	max. 17	19 kV
Non-repetitive peak reverse voltage $t < 10$ ms	V_{RSM}	max. 17	19 kV
Average forward current (averaged over any 20 ms period)	$I_F(AV)$	max. 3	mA
Repetitive peak forward current*	I_{FRM}	max. 500	mA
Storage temperature	T_{stg}	-65 to + 120 °C	
Junction temperature	T_j	max. 120	°C

CHARACTERISTICS

Forward voltage **

$I_F = 100$ mA; $T_j = 120$ °C

$V_F < 70$ V

Reverse current

$V_R = V_{RW}$; $T_j = 120$ °C

$I_R < 3$ μ A

Reverse recovery when switched from

$I_F = 100$ mA to $V_R \geq 100$ V

$-dI_F/dt = 200$ mA/ μ s; $T_j = 25$ °C

recovery charge

$Q_s < 1$ nC

recovery time

t_{rr} typ. 0,2 μ s

fall time

$t_f > 0,1$ μ s

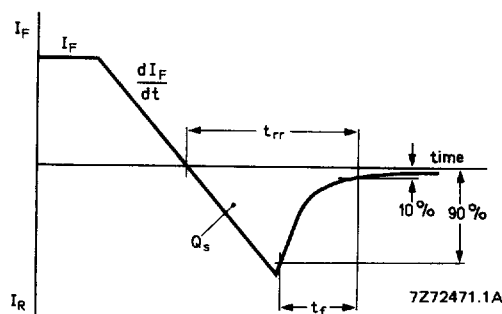


Fig. 2 Definitions of Q_s , t_{rr} and t_f .

* The device can withstand peak currents occurring during flashover in a picture tube.

** Measured under pulse conditions to avoid excessive dissipation.

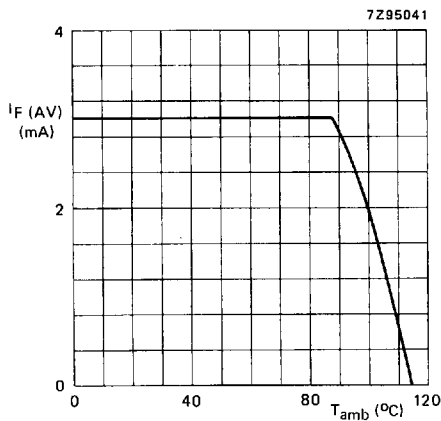


Fig. 3 Maximum permissible average forward current as a function of ambient temperature. $V_R = V_{RWmax}$. The diode should be mounted in such a way that $R_{th\ j-a} \leq 120\ K/W$.

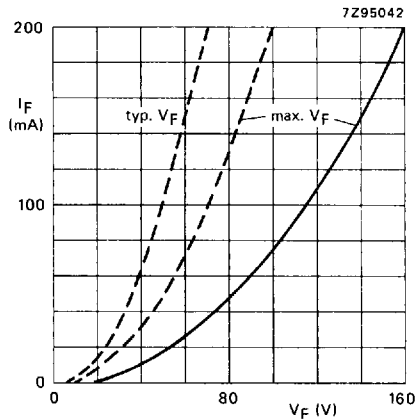


Fig. 4 — $T_j = 25\ ^\circ C$; ---- $T_j = 120\ ^\circ C$.

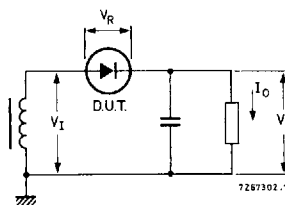


Fig. 5 Typical operation circuit.

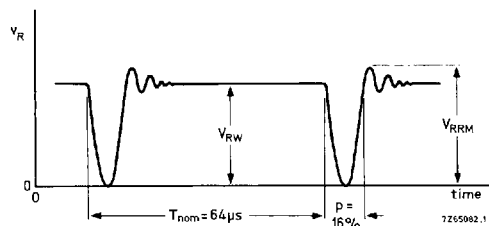


Fig. 6 Typical applied voltage.