SILICON E.H.T. SOFT-RECOVERY RECTIFIER DIODE

E.H.T. rectifier diode in a glass envelope intended for use in high-voltage applications such as multipliers, e.g. tripler circuits. The device features non-snap-off characteristics. Because of the smallness of the envelope, the diodes should be used in a suitable insulating medium (resin, oil or special arrangements in test-cases).

QUICK REFERENCE DATA

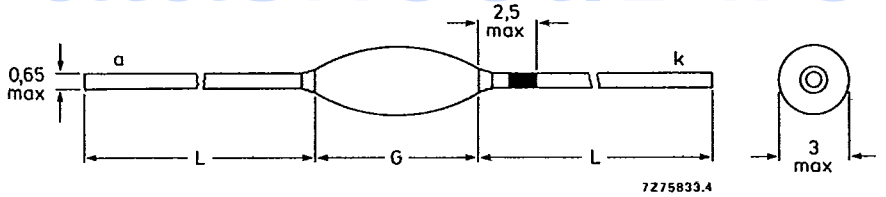
Working reverse voltage	V_{RW}	max.	11,5 kV
Repetitive peak reverse voltage	V_{RRM}	max.	15 kV
Average forward current	$I_{F(AV)}$	max.	4 mA
Junction temperature	T_j	max.	120 °C
Reverse recovery charge	Q_s	<	1 nC
Reverse recovery time	t_{rr}	typ.	0,2 μs

MECHANICAL DATA

Dimensions in mm

Fig. 1 SOD-61.
L = min. 29; G = max. 8,2.

Datasheet.Directory



The cathode is indicated by a purple band on the lead.

RATINGS

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

Working reverse voltage	V_{RW}	max.	11,5 kV
Repetitive peak reverse voltage	V_{RRM}	max.	12,5 kV
Repetitive peak reverse voltage; $t = 1$ min; $T_{amb} = 25$ °C	V_{RRM}	max.	15 kV
Non-repetitive peak reverse voltage; $t \leqslant 10$ ms	V_{RSM}	max.	15 kV
Average forward current (averaged over any 20 ms period)	$I_{F(AV)}$	max.	4 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	<	43 V**
Reverse current $V_R = 11,5$ kV; $T_j = 120$ °C	I_R	<	3 μA
Reverse recovery when switched from $I_F = 100$ mA to $V_R \geqslant 100$ V with $-dI_F/dt = 200$ mA/μs; $T_j = 25$ °C			
recovery charge	Q_s	<	1 nC
recovery time	t_{rr}	typ.	0,2 μs
fall time	t_f	>	0,1 μs

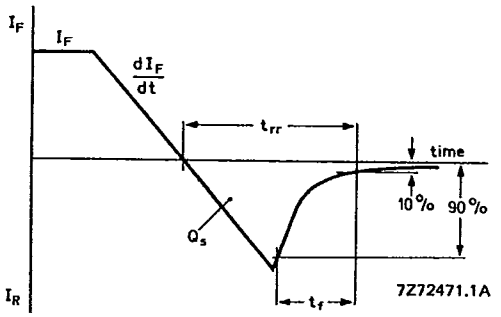


Fig. 2 Definitions of Q_s, t_{rr} and t_f.

* The device can withstand peak currents occurring at flashover in the picture tube.
** Measured under pulse conditions to avoid excessive dissipation.

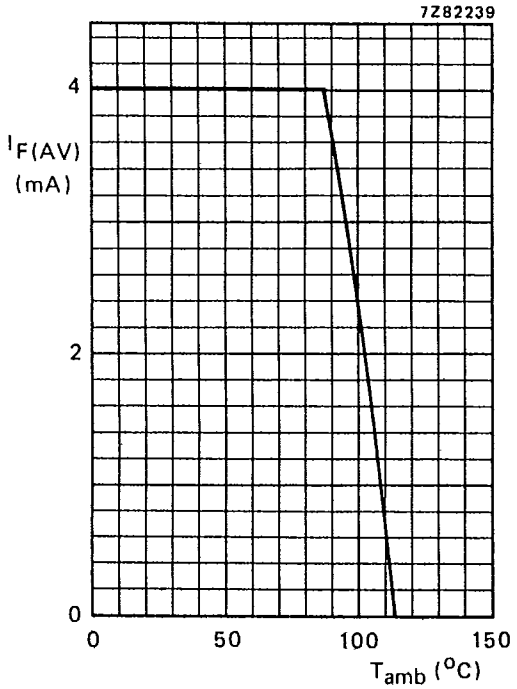


Fig. 3 Maximum permissible average forward current as a function of ambient temperature. $V_R = V_{RWmax}$. The device should be mounted in such a way that $R_{th\ j\text{-}a} \leq 120$ K/W .

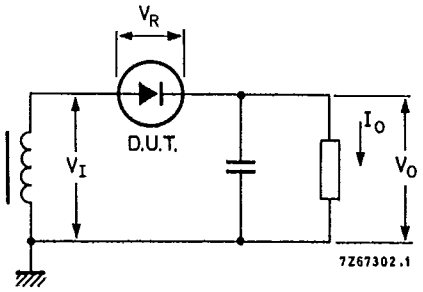


Fig. 4 Typical operation circuit.

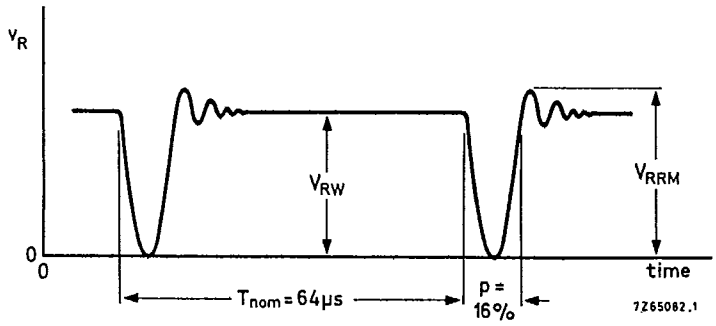


Fig. 5 Typical applied voltage.

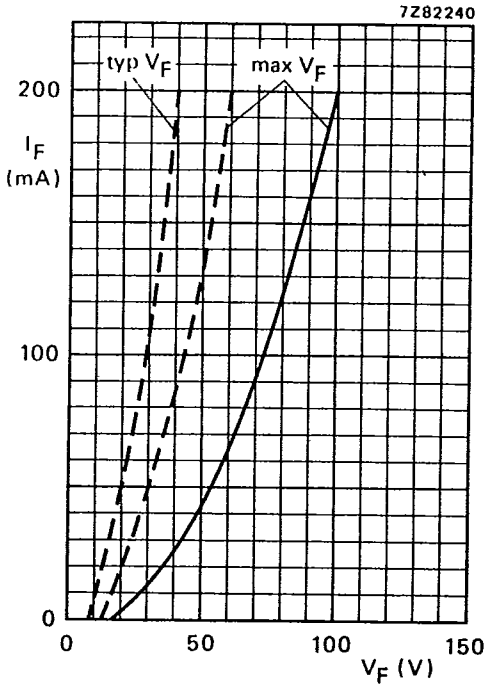


Fig. 6 —— T_j = 25 °C; –– T_j = 120 °C.