

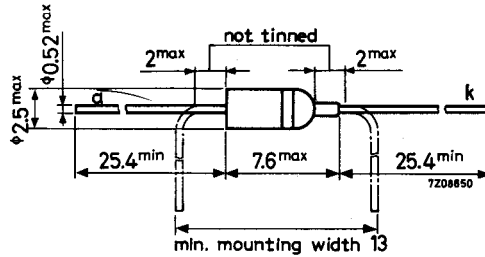
GERMANIUM DIODE

Germanium diode in subminiature all glass DO-7 construction for use as video detector.

MECHANICAL DATA

Dimensions in mm

DO-7



The coloured band indicates the cathode side

RATINGS (Limiting values according to the Absolute Maximum System as defined in IEC publication 134).

Average reverse voltage (averaged over any 50 ms period)	V_R	max.	20 V
Repetitive peak reverse voltage	V_{RRM}	max.	30 V
Non repetitive peak reverse voltage	V_{RSM}	max.	40 V
Average forward current (averaged over any 50 ms period)	I_F	max.	8 mA
Repetitive peak forward current	I_{FRM}	max.	45 mA
Non repetitive peak forward current ($t < 1$ s)	I_{FSM}	max.	200 mA
Storage temperature	T_{stg}		-55 to +90 °C
Operating ambient temperature	T_{amb}		-55 to +75 °C

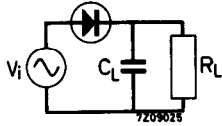
CHARACTERISTICS

		$T_{amb} = 25\text{ °C}$		60 °C	
<u>Forward voltage</u>					
$I_F = 0.1\text{ mA}$	V_F	typ. 0.18	typ. 0.12 V		
		0.1 to 0.25	< 0.20 V		
$I_F = 10\text{ mA}$	V_F	typ. 1.0	typ. 0.95 V		
		0.5 to 1.5	0.4 to 1.4 V		
$I_F = 30\text{ mA}$	V_F	typ. 2.0	typ. 1.95 V		
		1.1 to 3.2	1.0 to 3.1 V		
<u>Reverse current</u>					
$V_R = 1.5\text{ V}$	I_R	typ. 2.4	typ. 11 μA		
		< 10	< 40 μA		
$V_R = 10\text{ V}$	I_R	typ. 20	typ. 45 μA		
		< 135	< 270 μA		
$V_R = 20\text{ V}$	I_R	typ. 90	typ. 140 μA		
		< 450	< 650 μA		
$V_R = 30\text{ V}$	I_R	typ. 300	typ. 400 μA		
		< 1100	< 1500 μA		

OA90

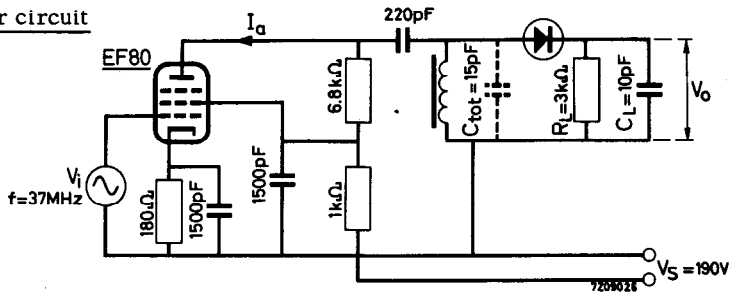
APPLICATION INFORMATION

Measuring circuit



V_{im}	=	5	1.4	0.5	5	V
f	=	40	40	40	30	MHz
C_L	=	10	10	10	10	pF
R_L	=	3	3	3	3.9	k Ω
η	typ.	63	54	34	>60	%
R_d	typ.	2.4	2.8	3.7	>2.9	k Ω

Video detector circuit



Q of the tuned circuit with removed diode: $Q = 19$

I_{am}	=	2.5	0.25	mA
B	=	4.7	4.1	MHz
V_o	typ.	2.7	0.20	V

