

SILICON RATIO DETECTOR DIODE

Silicon planar epitaxial diode in DO-35 envelope, intended for use in ratio detector circuits. Due to small spreads of forward voltage at low currents and of junction capacitance, the diodes can be used as matched pairs.

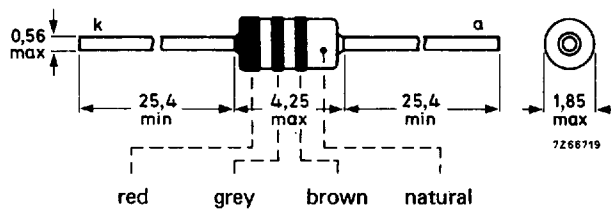
QUICK REFERENCE DATA

Continuous reverse voltage	V_R	max.	50 V
Forward current (d.c.)	I_F	max.	200 mA
Repetitive peak forward current	I_{FRM}	max.	450 mA
Forward voltage	V_F	360 to 420	mV
Diode capacitance	C_d	<	1,2 pF
Junction temperature	T_j	max.	200 °C

MECHANICAL DATA

Dimensions in mm

Fig. 1 DO-35 (SOD-27).



Diodes may be either type-branded or colour-coded.

RATINGS

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

Continuous reverse voltage	V_R	max.	50 V
Forward current (d.c.)	I_F	max.	200 mA
Repetitive peak forward current	I_{FRM}	max.	450 mA
Storage temperature	T_{stg}	-65 to +200	°C
Junction temperature	T_j	max.	+200 °C

THERMAL RESISTANCE

from junction to ambient in free air

$$R_{thj-a} = 0,6 \text{ K/mW}$$

CHARACTERISTICS

 $T_j = 25 \text{ °C}$ unless otherwise specified

Forward voltage

$$I_F = 10 \mu\text{A}$$

$$V_F = 360 \text{ to } 420 \text{ mV}$$

$$I_F = 100 \text{ mA}$$

$$V_F < 1000 \text{ mV}$$

Reverse current

$$V_R = 50 \text{ V}$$

$$I_R < 50 \text{ nA}$$

Diode capacitance

$$V_R = 0, f = 1 \text{ MHz}$$

$$C_d < 1,2 \text{ pF}$$

Dynamic characteristics

Input peak voltage	V_{im}	3	V
Frequency	f_i	10,7	MHz
Load capacitor	C_L	330	pF
Load resistor	R_L	0,033	MΩ
Efficiency	η	85	%
Diode resistance	r_D	12	kΩ

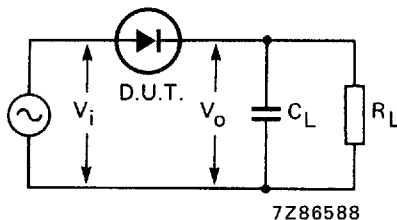


Fig. 2 Test circuit.