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.

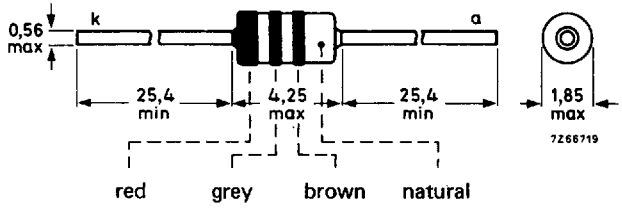
QUICK REFERENCE DATA

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

CHARACTERISTICS

T_j = 25 °C unless otherwise specified

Forward voltage				
I_F = 10 μA	V_F		360 to 420	mV
I_F = 100 mA	V_F	<	1000	mV
Reverse current				
V_R = 50 V	I_R	<	50	nA
Diode capacitance				
V_R = 0, f = 1 MHz	C_d	<	1,2	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

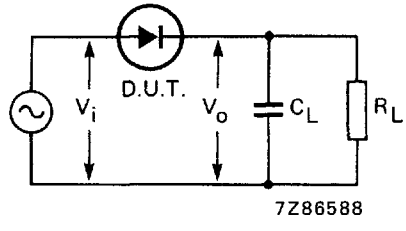


Fig. 2 Test circuit.