

SILICON DIODES

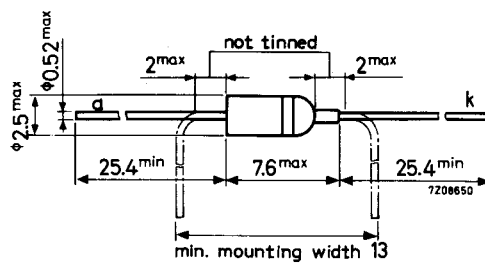
Silicon alloyed general purpose diodes in a subminiature all glass DO-7 envelope.

		QUICK REFERENCE DATA	
		OA200	OA202
Continuous reverse voltage	V_R	max. 50	150 V
Repetitive peak forward current	I_{FRM}	max. 250	mA
Thermal resistance from junction to ambient	$R_{th\ j-a}$	=	0.4 °C/mW
Forward voltage $I_F = 30\text{ mA}; T_{amb} = 25\text{ °C}$	V_F	typ. 0.9	V
Reverse recovery time when switched from $I_F = 30\text{ mA}$ to $V_R = 35\text{ V}$; $R_L = 2.5\text{ k}\Omega$ measured at $I_R = 4\text{ mA}$	t_{rr}	typ. 3.5	μs

MECHANICAL DATA

Dimensions in mm

DO-7



The coloured band indicates the cathode side

OA200
OA202

RATINGS (Limiting values) ¹⁾

Voltage

Continuous reverse voltage	<u>OA200</u>	V_R	max.	50 V
	<u>OA202</u>	V_R	max.	150 V

Currents

			$T_{amb} = 25\text{ }^\circ\text{C}$	$T_{amb} = 125\text{ }^\circ\text{C}$
Average rectified forward current (averaged over any 20 ms period)	I_{FAV}	max.	160	48 mA
Average forward current for sinusoidal operation	I_{FAV}	max.	80	40 mA
Forward current (d.c.; see page 4)	I_F	max.	160	48 mA
Repetitive peak forward current	I_{FRM}	max.	250	125 mA

Temperatures

Storage temperature	T_{stg}	-55 °C to +125 °C
Operating ambient	T_{amb}	max. 125 °C

THERMAL RESISTANCE

From junction to ambient in free air	$R_{th\ j-a}$	=	0.4 °C/mW
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CHARACTERISTICS

			$T_{amb} = 25\text{ }^\circ\text{C}$	$T_{amb} = 125\text{ }^\circ\text{C}$
<u>Forward voltage</u>				
$I_F = 0.1\text{ mA}$	V_F	typ.	0.52	- V
		<	0.62	0.30 V
$I_F = 10\text{ mA}$	V_F	typ.	0.80	- V
		<	0.96	0.65 V
$I_F = 30\text{ mA}$	V_F	typ.	0.90	- V
		<	1.15	0.80 V
<u>Reverse current</u>				
$V_R = V_{Rmax}$	<u>OA200</u>	I_R	typ. 0.02	1 μA
			< 0.10	10 μA
	<u>OA202</u>	I_R	typ. 0.01	0.5 μA
			< 0.10	10 μA
<u>Diode capacitance</u>				
$V_R = 0.75\text{ V}; f = 0.5\text{ MHz}$	C_d	typ.	10 pF	
		<	25 pF	

¹⁾ Limiting values according to the Absolute Maximum System as defined in IEC publication 134.

CHARACTERISTICS (continued)

$T_{amb} = 25\text{ }^{\circ}\text{C}$

Reverse recovery current when switched from

$I_F = 5\text{ mA}$ to $V_R = 5\text{ V}$; $R_L = 2.5\text{ k}\Omega$
 measured at $t_{rr} = 3.5\text{ }\mu\text{s}$
 $t_{rr} = 10\text{ }\mu\text{s}$

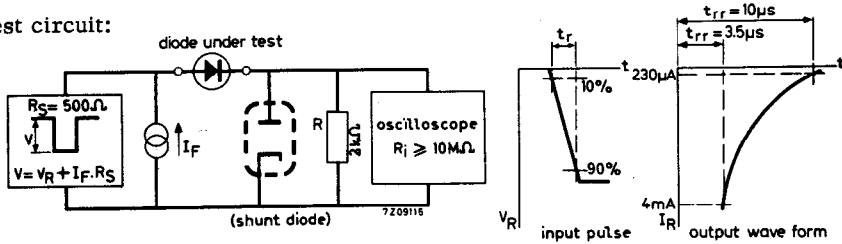
I_R typ. 1.2 mA
 I_R typ. 35 μA

Reverse recovery current when switched from

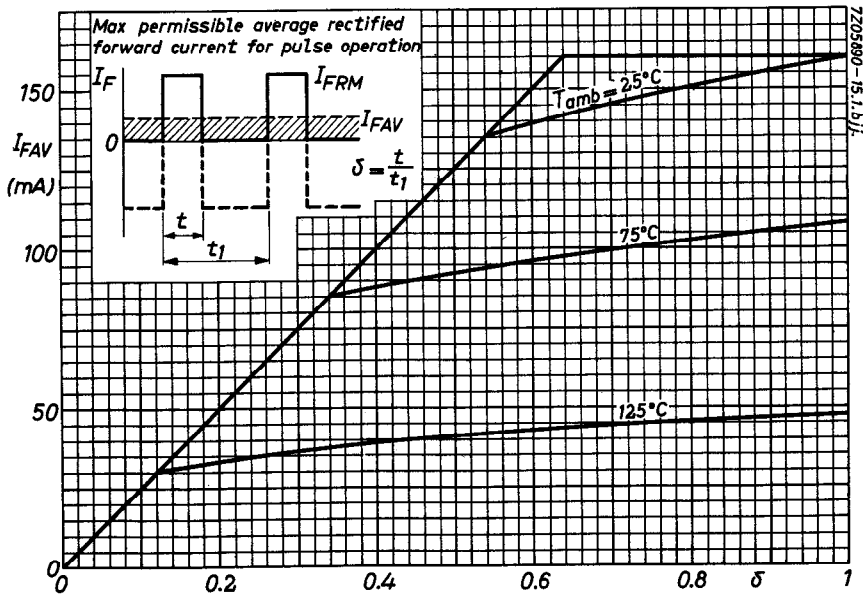
$I_F = 30\text{ mA}$ to $V_R = 35\text{ V}$; $R_L = 2.5\text{ k}\Omega$
 measured at $t_{rr} = 3.5\text{ }\mu\text{s}$
 $t_{rr} = 10\text{ }\mu\text{s}$

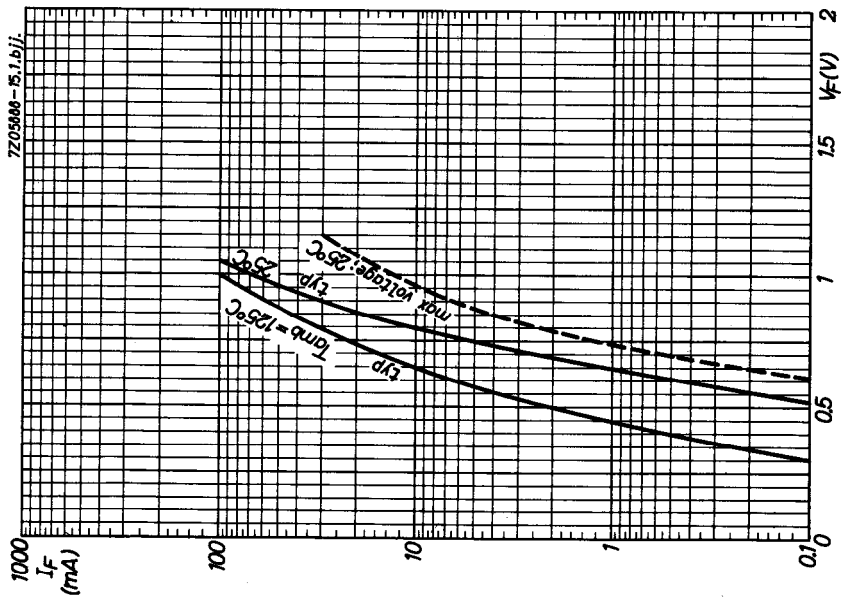
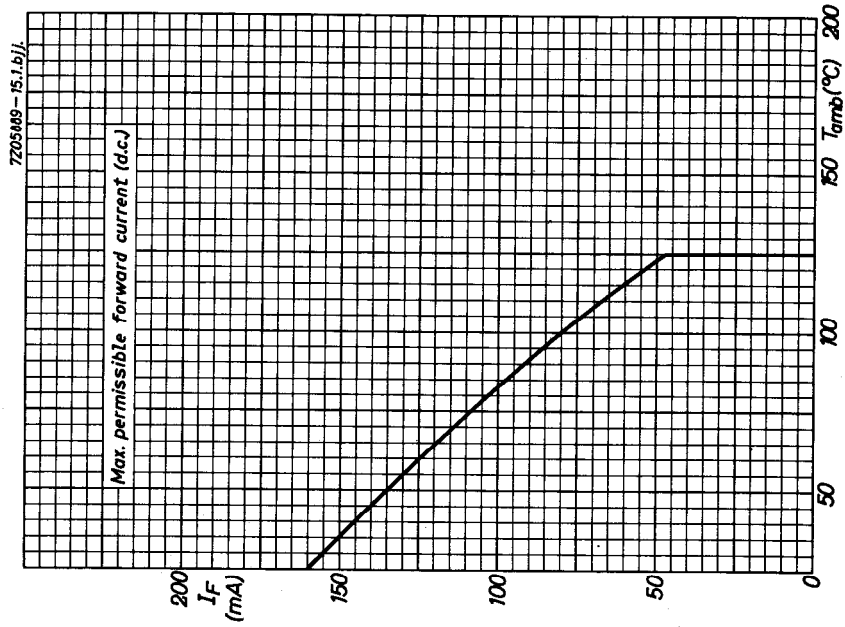
I_R typ. 4 mA
 I_R typ. 230 μA

Test circuit:



Reverse pulse: Rise time $t_r \leq 0.1\text{ }\mu\text{s}$ Oscilloscope: Capacitance $C = 40\text{ pF}$
 Duty cycle $\delta = 0.5$ Rise time $t_r = 25\text{ ns}$
 Frequency $f = 50\text{ kHz}$





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