RATINGS

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

Continuous reverse voltage	V_R	max.	75	V
Repetitive peak reverse voltage	V_{RRM}	max.	75	V
Average rectified forward current	$I_{F(AV)}$	max.	150	mA
Forward current (d.c.)	I_F	max.	200	mA
Repetitive peak forward current	I_{FRM}	max.	450	mA
Non-repetitive peak forward current				
$t = 1\ \mu s$	I_{FSM}	max.	2000	mA
$t = 1\ s$	I_{FSM}	max.	500	mA
Total power dissipation up to $T_{amb} = 25\ ^oC$	P_{tot}	max.	500	mW
Derating factor			2,85	mW/K
Storage temperature	T_{stg}		−65 to + 200	°C
Junction temperature	T_j	max.	200	°C

CHARACTERISTICS

$T_j = 25\ ^oC$ unless otherwise specified

Forward voltages				
1N4148: $I_F = 10$ mA **1N4446:** $I_F = 20$ mA **1N4448:** $I_F = 100$ mA		V_F	<	1 V
1N4448: $I_F = 5$ mA		V_F	0,62 to 0,72	V
Reverse avalanche breakdown voltage				
$I_R = 100\ \mu A$		$V_{(BR)R}$	>	100 V
$I_R = 5\ \mu A$		$V_{(BR)R}$	>	75 V
Reverse currents				
$V_R = 20$ V		I_R	<	25 nA
$V_R = 20$ V; $T_j = 100\ ^oC$	**1N4448**	I_R	<	3 μA
$V_R = 20$ V; $T_j = 150\ ^oC$		I_R	<	50 μA
Diode capacitance				
$V_R = 0$; $f = 1$ MHz		C_d	<	4 pF

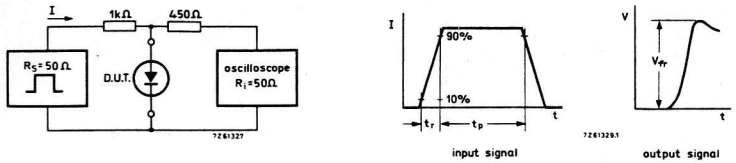
CHARACTERISTICS (continued)

$T_j = 25\ ^oC$

Forward recovery voltage when switched to

$I_F = 50$ mA; $t_r = 20$ ns $\quad V_{fr} < 2,5$ V

Test circuit and waveforms:



Input signal : Rise time of the forward pulse $t_r = 20$ ns

Forward current pulse duration $t_p = 120$ ns

Duty factor $\delta = 0,01$

Oscilloscope: Rise time $t_r = 0,35$ ns

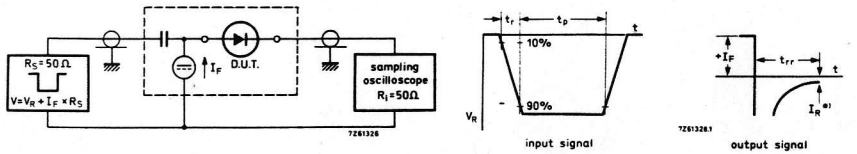
Circuit capacitance C ≤ 1 pF (C = oscilloscope input capacitance + parasitic capacitance)

Reverse recovery time when switched from

$I_F = 10$ mA to $I_R = 60$ mA; $R_L = 100\ \Omega$;

measured at $I_R = 1$ mA $\quad t_{rr} < 4$ ns

Test circuit and waveforms:



Input signal : Rise time of the reverse pulse $t_r = 0,6$ ns *) $I_R = 1$ mA

Reverse pulse duration $t_p = 100$ ns

Duty factor $\delta = 0,05$

Oscilloscope: Rise time $t_r = 0,35$ ns

Circuit capacitance C ≤ 1 pF (C = oscilloscope input capacitance + parasitic capacitance)