



TELEFUNKEN electronic
Creative Technologies

1N4148 · 1N4149 · 1N4446
1N4447 · 1N4448 · 1N4449

Silicon Epitaxial Planar Diodes

T-03-09

Applications: Extreme fast switches

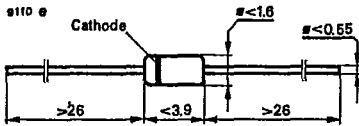
Features:

- 1N 4148, 1N 4446, 1N 4448 also available as "Qualified semiconductor device" according to: VG 95 288 or ESA - SCC 5000

Electrically data equivalent the diodes:

1N 4148	-	1N 914	1N 4446	-	1N 914 A
1N 4149	-	1N 916	1N 4447	-	1N 916 A
			1N 4448	-	1N 914 B
			1N 4449	-	1N 916 B

Dimensions in mm



Standard glass case
54A2 DIN 41 880
JEDEC DO 35
Weight max. 0.15 g

Marking: By letters

Absolute maximum ratings

Repetitive peak reverse voltage	V_{RRM}	100	V
Reverse voltage	V_R	75	V
Surge forward current $t_p = 1 \mu s$	I_{FSM}	2	A
Repetitive peak forward current	I_{FRM}	500	mA
Forward current	I_F	300	mA
Average forward current $V_R = 0$	I_{FAV}	150	mA
Power dissipation $l = 4 \text{ mm}, T_L = 45 \text{ }^\circ\text{C}$	P_V	440	mW
$T_L \le 25 \text{ }^\circ\text{C}$	P_V	500	mW
Junction temperature	T_J	200	$^\circ\text{C}$
Storage temperature range	T_{sto}	- 65....+ 200	$^\circ\text{C}$

Maximum thermal resistance

Junction ambient $l = 4 \text{ mm}, T_L = \text{constant}$	R_{thJA}	350	K/W
---	------------	-----	-----

T1.2/948.0588 E

1N 4148 · 1N 4149 · 1N 4446
1N 4447 · 1N 4448 · 1N 4449

T-03-09

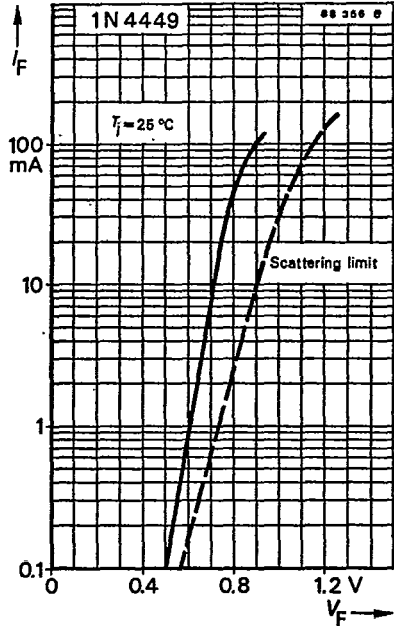
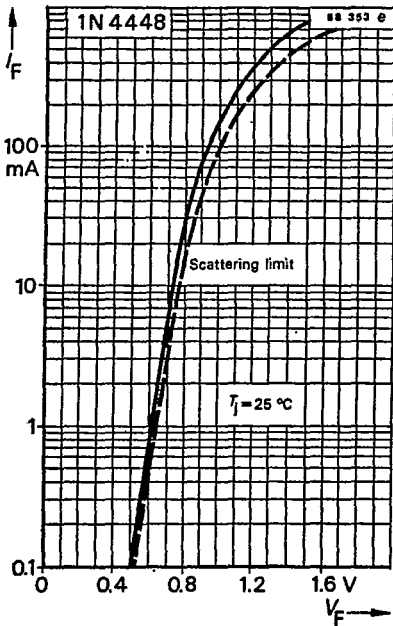
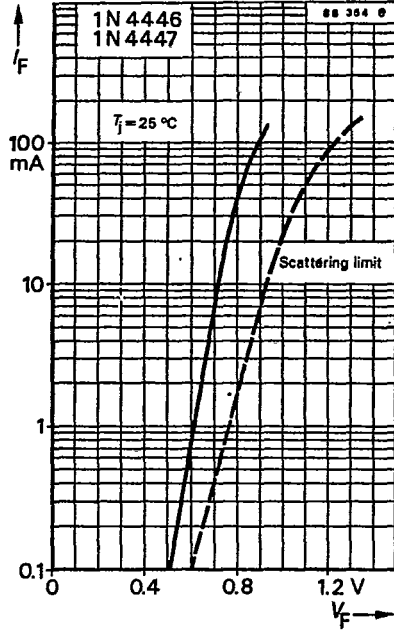
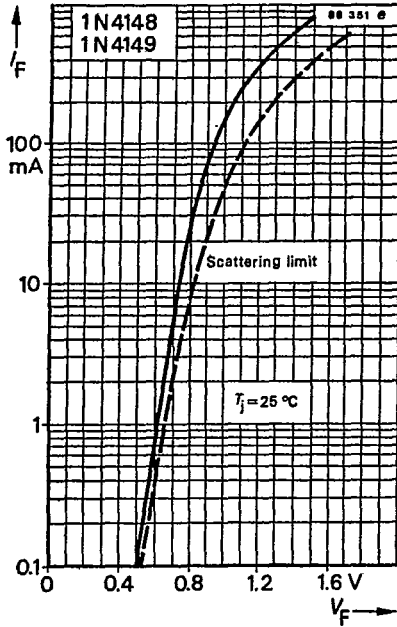
Characteristics		Min.	Typ.	Max.
$T_j = 25^\circ\text{C}$, unless otherwise specified				
Forward voltage				
$I_F = 5\text{ mA}$	1N 4448	V_F	0.62	0.72 V
$I_F = 10\text{ mA}$	1N 4148, 1N 4149	V_F		1 V
$I_F = 20\text{ mA}$	1N 4446, 1N 4447	V_F		1 V
$I_F = 30\text{ mA}$	1N 4449	V_F		1 V
$I_F = 100\text{ mA}$	1N 4448	V_F		1 V
Reverse current				
$V_R = 20\text{ V}$		I_R		25 nA
$V_R = 20\text{ V}, T_j = 150^\circ\text{C}$		I_R		50 μA
$V_R = 75\text{ V}$		I_R		5 μA
Breakdown voltage				
$I_R = 100\text{ }\mu\text{A}$		$V_{(BR)}^{1)}$	100	V
Diode capacitance				
$V_R = 0, f = 1\text{ MHz}, V_{HF} = 50\text{ mV}$				
	1N 4148, 1N 4446, 1N 4448	C_D		4 pF
	1N 4149, 1N 4447, 1N 4449	C_D		2 pF
Rectification efficiency				
$V_{HF} = 2\text{ V}, f = 100\text{ MHz}$		η_r	45	%
Reverse recovery time				
$I_F = I_R = 10\text{ mA}, I_R = 1\text{ mA}$		t_{rr}		8 ns
$I_F = 10\text{ mA}, V_R = 6\text{ V},$ $I_R = 0.1 \cdot I_{R1}, R_L = 100\text{ }\Omega$		t_{rr}		4 ns

¹⁾ $\frac{t_p}{T} = 0.01, t_p = 0.3\text{ ms}$

1N 4148 · 1N 4149 · 1N 4446
1N 4447 · 1N 4448 · 1N 4449

A E G CORP

T-03-09



1N 4148 · 1N 4149 · 1N 4446
 1N 4447 · 1N 4448 · 1N 4449

T-03-09

