



Fast switching diode

Features

1. High reliability
2. High conductance
3. Fast switching speed ($t_r \leq 4$ ns)

Applications

For general purpose switching applications



Construction

Silicon epitaxial planar

Absolute Maximum Ratings

$T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Symbol	Value	Unit
Non repetitive peak reverse voltage		V_{RM}	100	V
Repetitive peak reverse voltage		V_{RRM}	75	V
Working peak reverse voltage		V_{RWM}	75	V
DC blocking voltage		V_R	75	V
RMS reverse voltage		$V_{R(RMS)}$	53	V
Forward current		I_F	300	mA
Average rectified current	Half wave rectification with resistive load and $f > 50\text{MHz}$	I_{FAV}	200	mA
Non repetitive peak forward surge current	$t = 1\text{s}$	I_{FSM}	1	A
	$t = 1\mu\text{s}$	I_{FSM}	4	A
Power dissipation	$l = 4\text{mm}$ $T_L = 25^\circ\text{C}$	P_d	500	mW
Storage temperature range		T_{stg}	$-65 \sim +175$	$^\circ\text{C}$

Stresses exceeding maximum ratings may damage the device. Maximum ratings are stress ratings only. Functional operation above the recommended operating conditions is not implied. Extended exposure to stresses above the recommended operating conditions may affect device reliability.

Excel Semiconductor



Electrical Characteristics

$T_j=25^{\circ}\text{C}$

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F=10\text{mA}$	V_F			1	V
Peak 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	$I_R=100\mu\text{A}$	V_R	100			V
Diode capacitance	$V_R=0, f=1\text{MHz}$	C_D			4	pF
Reverse recovery time	$I_F=10\text{mA}$ to $I_R=1\text{mA}$, $V_R=6\text{V}$, $R_L=100\Omega$	t_{rr}			4	ns

Characteristics ($T_j=25^{\circ}\text{C}$ unless otherwise specified)

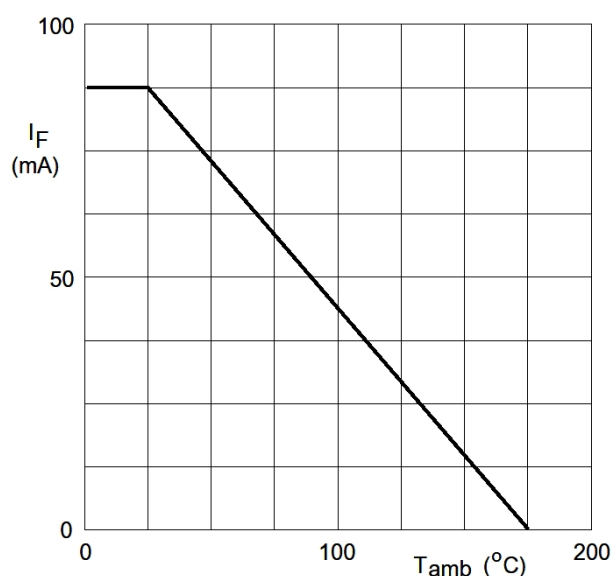


Figure 1. Maximum permissible continuous forward current vs. ambient temperature

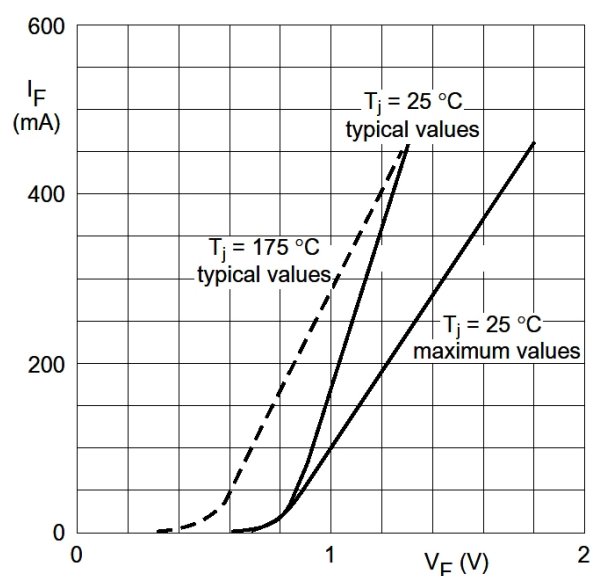


Figure 2. Forward current vs. forward voltage

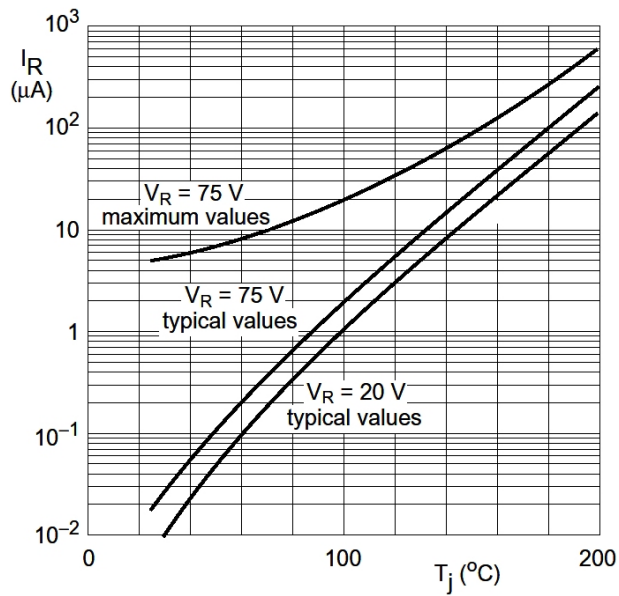


Figure 3. Reverse current vs. junction temperature

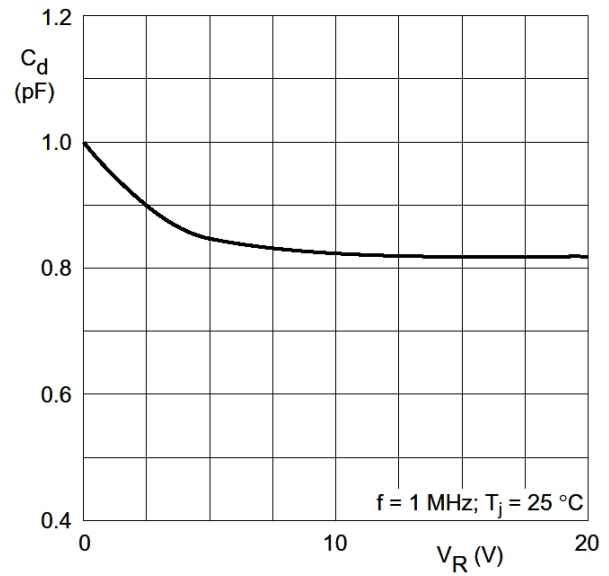
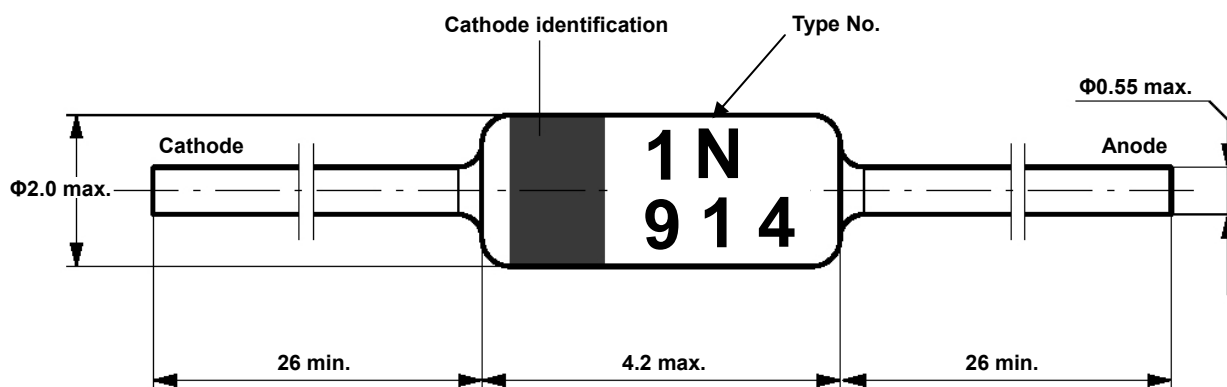


Figure 4. Diode capacitance vs. reverse voltage
(Typical values)

**Dimensions in mm**

Standard Glass Case
JEDEC DO-35

Marking