

# Fast switching diode

## Features

1. High reliability
2. High conductance
3. Fast switching speed ( $t_{rr} \leq 4 \text{ ns}$ )

## 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	$I=4\text{mm}$ $T_L=25^\circ\text{C}$	$P_d$	500	mW
Storage temperature range		$T_{stg}$	-65~+175	°C

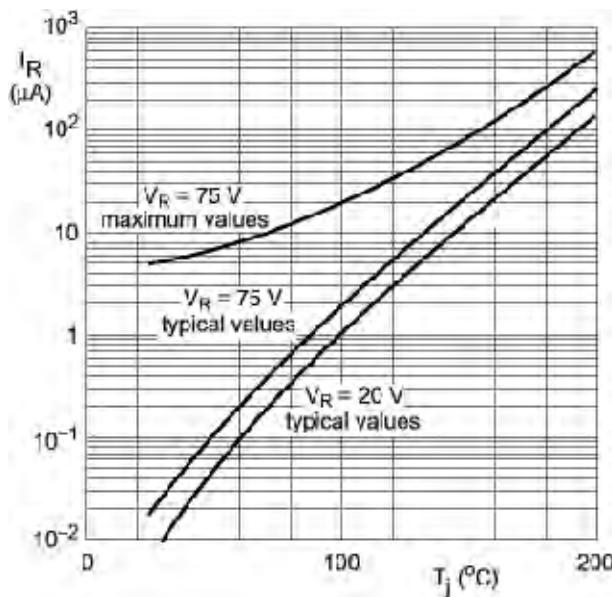


Figure 3. Reverse current vs. junction temperature

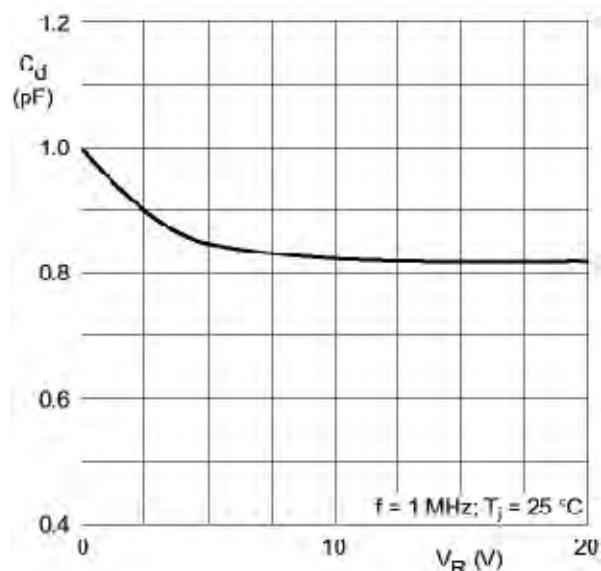
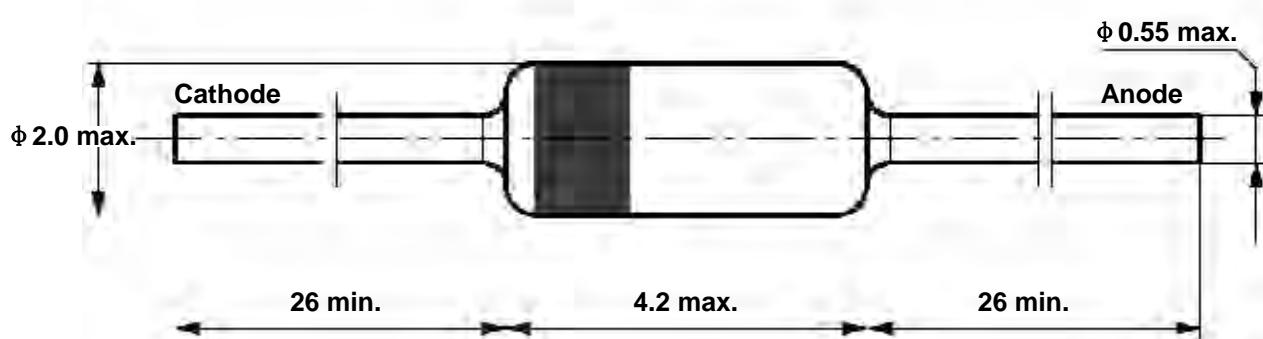


Figure 4. Diode capacitance vs. reverse voltage  
(Typical values)

## Dimensions in mm

### Cathode identification



Standard Glass Case  
JEDEC DO 35

## Maximum Thermal Resistance

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

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	$I=4\text{mm}$ , $T_L=\text{constant}$	$R_{\text{thJA}}$	300	K/W

## 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	$\mu\text{A}$
	$V_R=75\text{V}$	$I_R$			5	$\mu\text{A}$
Breakdown voltage	$I_R=100\text{ }\mu\text{A}$	$V_R$	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)

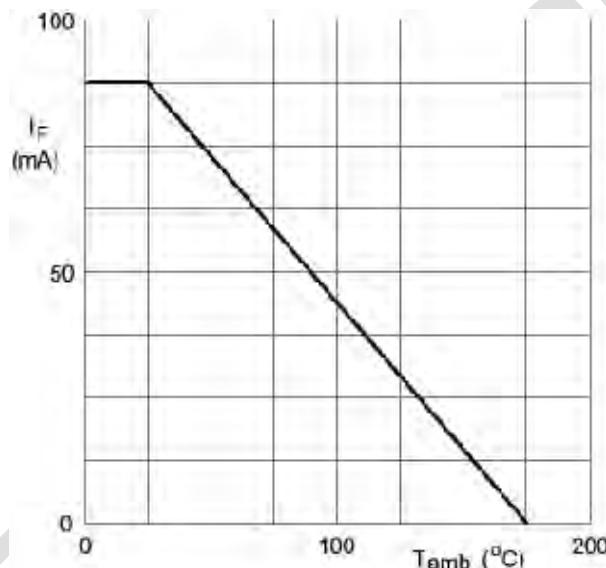


Figure 1. Maximum permissible continuous forward current vs. ambient temperature

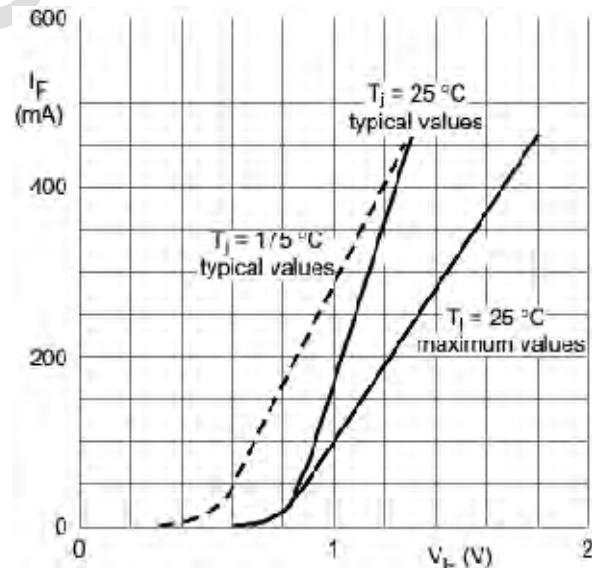


Figure 2. Forward current vs. forward voltage