

High-speed switching diode

Features

1. High reliability
2. High forward current capability

Applications

High speed switch and general purpose use in computer and industrial applications



Construction

Silicon epitaxial planar

Absolute Maximum Ratings

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

Parameter	Test Conditions	Type	Symbol	Value	Unit
Repetitive peak reverse voltage			V_{RRM}	50	V
Reverse voltage			V_R	40	V
Peak forward surge current	$t_p=1\ \mu\text{s}$		I_{FSM}	4	A
Forward current			I_F	600	mA
Average forward current	$V_R=0$		I_{FAV}	300	mA
Power dissipation			P_V	500	mW
Junction temperature			T_j	175	$^{\circ}\text{C}$
Storage temperature range			T_{stg}	-65~+175	$^{\circ}\text{C}$

Maximum Thermal Resistance

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

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	on PC board 50mm × 50mm × 1.6mm	R_{thJA}	500	K/W

Electrical Characteristics

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

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F=1\text{mA}$		V_F	0.54		0.62	V
	$I_F=10\text{mA}$		V_F	0.66		0.74	V
	$I_F=50\text{mA}$		V_F	0.76		0.86	V
	$I_F=100\text{mA}$		V_F	0.82		0.92	V
	$I_F=200\text{mA}$		V_F	0.87		1.0	V
Reverse current	$V_R=50\text{V}$		I_R			100	nA
	$V_R=50\text{V}, T_j=150^\circ\text{C}$		I_R			100	μA
Diode capacitance	$V_R=0, f=1\text{MHz}, V_{HF}=50\text{mV}$		C_D			2.5	pF
Reverse recovery time	$I_F=I_R=10\dots100\text{mA}, I_R=1\text{mA}, R_L=100\Omega$		t_{rr}			4	ns

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

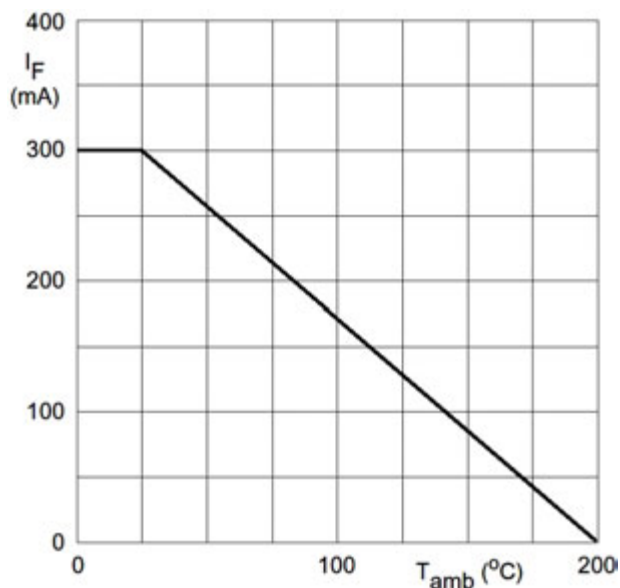


Figure 1. Maximum permissible continuous forward current vs. ambient temperature

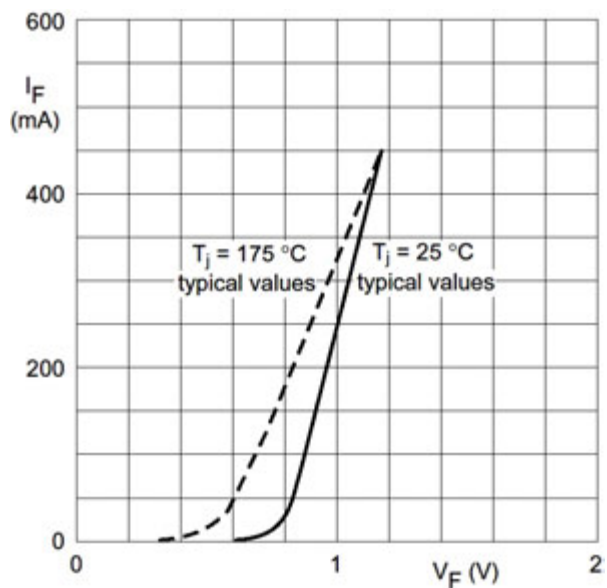


Figure 2. Forward current vs. forward voltage

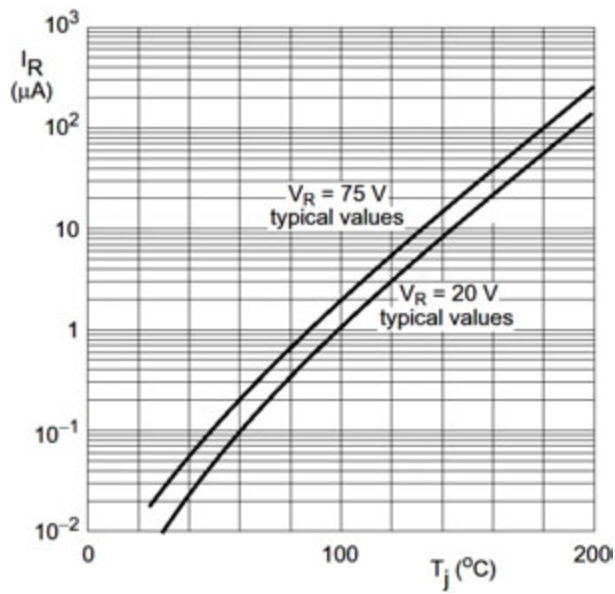


Figure 3. Reverse current vs. junction temperature

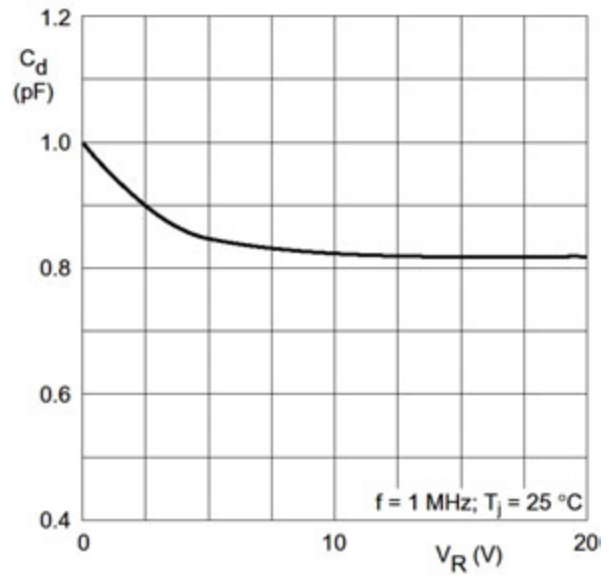
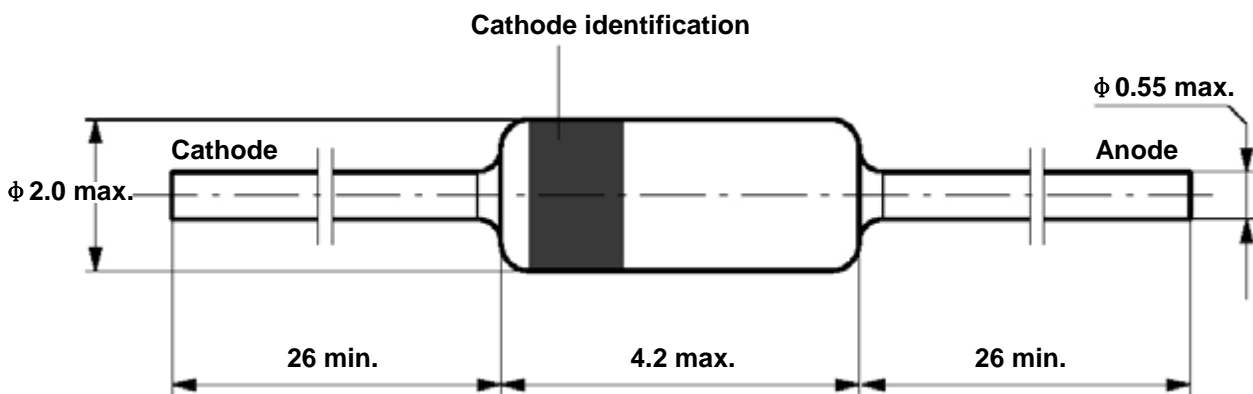


Figure 4. Diode capacitance vs. reverse voltage (Typical values)

Dimensions in mm



Standard Glass Case
JEDEC DO 35