

Schottky Barrier Diode

Features

1. High reliability
2. Low reverse current and low forward voltage

Applications

Low current rectification and high speed switching

Construction

Silicon epitaxial planar

Absolute Maximum Ratings

T_j=25°C

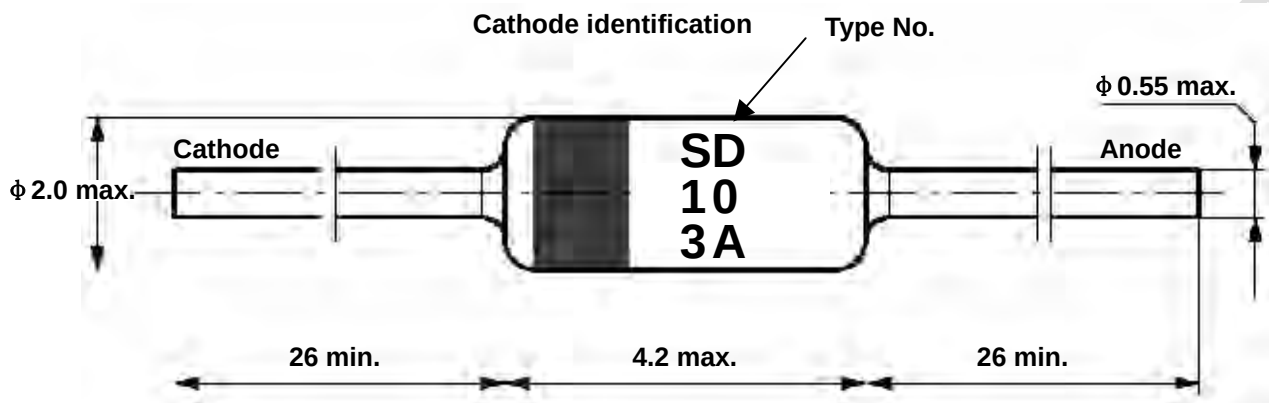
Parameter	Test Conditions	Type	Symbol	Value	Unit
Repetitive peak reverse voltage		SD103A	V _{RRM}	40	V
		SD103B	V _{RRM}	30	V
		SD103C	V _{RRM}	20	V
Repetitive peak forward current	t _p ≤ 1 s		I _{FRM}	1	A
Forward current			I _{FM}	350	mA
Power dissipation	T _{amb} =25°C		P _V	400	mW
Storage temperature range			T _{stg}	-65~+175	°C

Maximum Thermal Resistance

T_j=25°C

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	on PC board 50mm×50mm×1.6mm	R _{thJA}	250	K/W

Dimensions in mm



Standard Glass Case
JEDEC DO 35

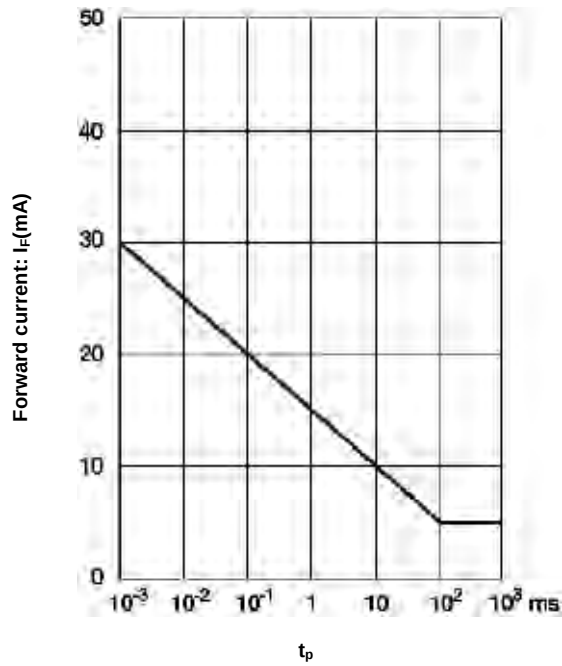


Figure 3. Typical non repetitive forward surge current vs. pulse width

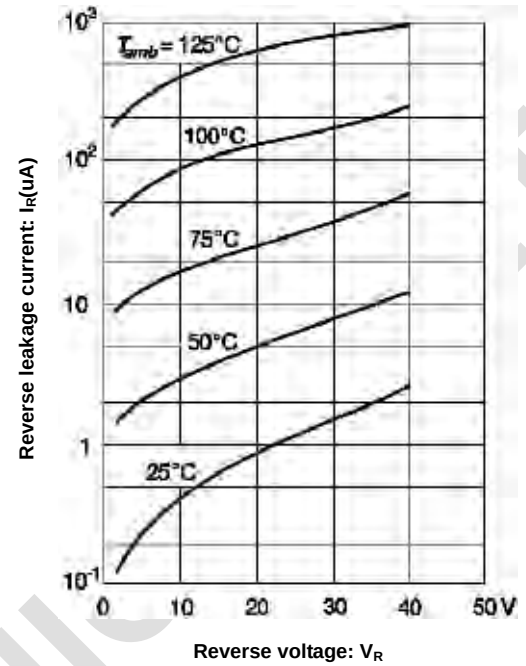


Figure 4. Typical variation of reverse current at various temperatures

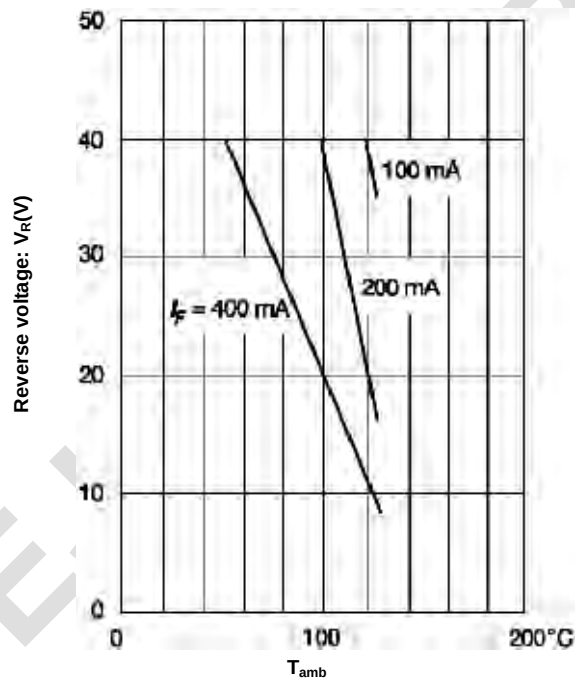


Figure 5. Blocking voltage duration vs. temperature at various average forward current

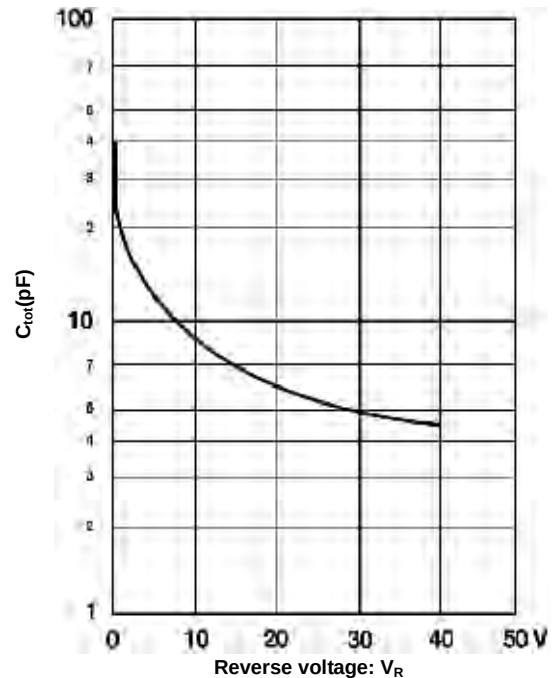


Figure 6. Typical capacitance vs. reverse voltage

Electrical Characteristics

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

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F=20\text{mA}$		V_F			0.37	V
	$I_F=200\text{mA}$		V_F			0.6	V
Reverse current	$V_R=30\text{V}$	SD103A	I_R			5	μA
	$V_R=20\text{V}$	SD103B	I_R			5	μA
	$V_R=10\text{V}$	SD103C	I_R			5	μA
Diode capacitance	$V_R=V_F=0, f=1\text{MHz}$		C_D		50		pF
Reverse recovery time	$I_F=I_R=200\text{mA}$ to $0.1\text{mA } I_R$		t_{rr}		10		ns

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

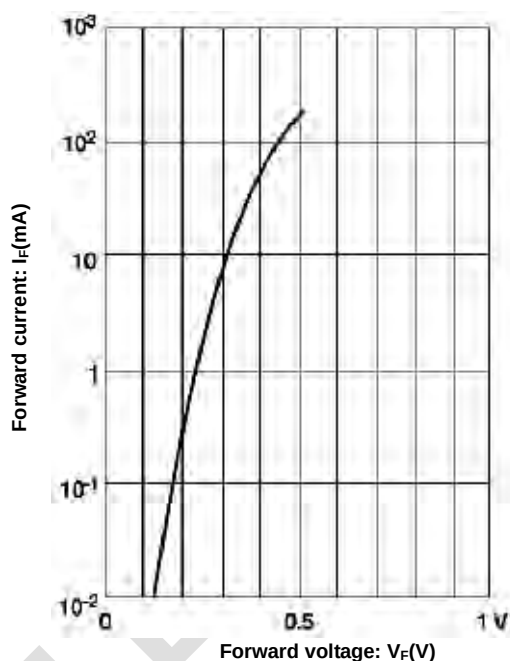


Figure 1. Typical variation of forward current vs. forward voltage for primary conduction through the schottky barrier

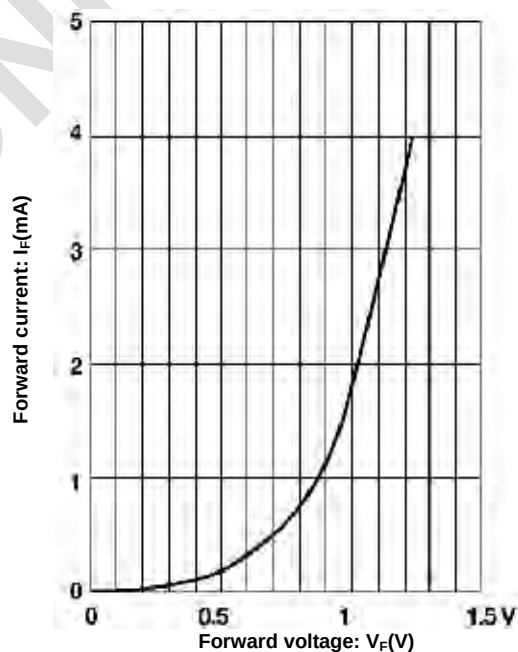


Figure 2. Typical high current forward conduction curve $t_p=300\text{ms}$, duty cycle=2%