Small Signal Schottky Barrier Diode

Features

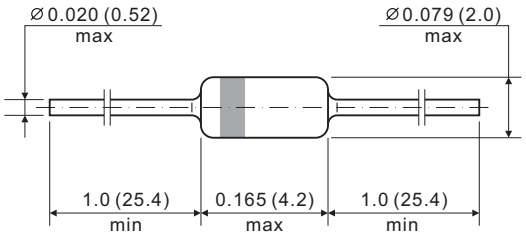
1. For general purpose applications
2. Metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring. The low forward voltage drop and fast switching make i t ideal for protection of MOS devices, steering, biasing and coupling diodes for fast switching and low logic level applications.

Mechanical Data

Case: DO-35 Glass Case
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Colour band denotes cathode end
Mounting Position: Any
Weight: approx. 0.005 ounce, 0.14grams

Standard Glass Case JEDEC DO-35

Dimensions in inches and (mm)



Absolute Maximum Ratings Tamb =25 °C unless otherwise specified

Parameter	Test Condition	Part	Symbol	Value	Unit
Repetitive peak revers voltage		1N5711	V_{RRM}	70	V
		1N6263	V_{RRM}	60	V
Peak forward surge current	t_p = 10 μs		I_{FSM}	2.0	A
Power dissipation	l = 4 mm, T_L = constant		P_{tot}	400	mW

Thermal Characteristics Tamb =25 °C unless otherwise specified

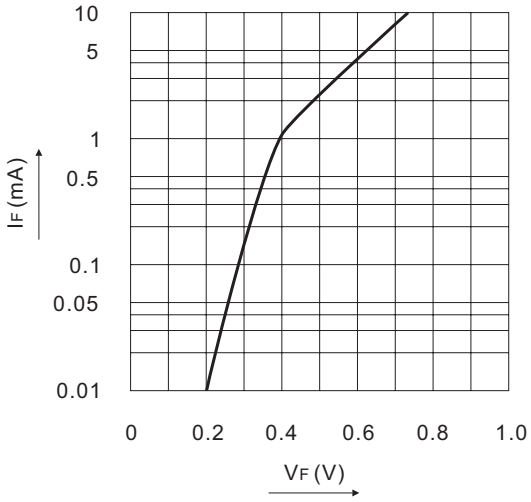
Parameter	Test Condition	Symbol	Value	Unit
Thermal resistance, Junction to ambient	l = 4 mm, T_L = constant	R_{thJA}	350	°C / W
Junction temperature		T_j	125	°C
Storage temperature		T_{stg}	-65 ~ 175	°C

Electrical Characteristics Tamb =25 °C unless otherwise specified

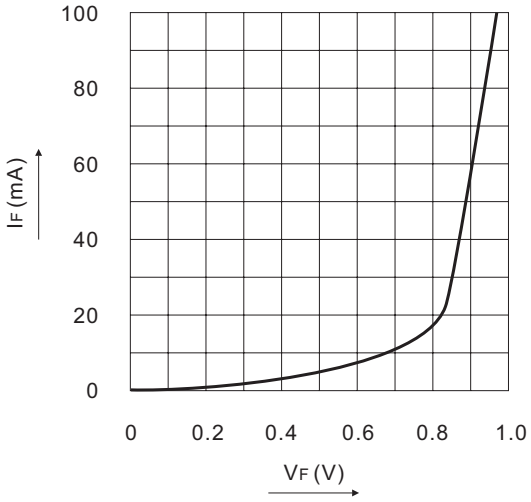
Parameter	Test Condition	Part	Symbol	Min	Typ.	Max	Unit
Reverse breakdown voltage	I_R = 10 μA	1N5711	V_R	70	—	—	V
		1N6263	V_R	60	—	—	V
Forward voltage	I_F = 1.0 mA		V_F	—	—	0.41	V
	I_F = 15 mA		V_F	—	—	1.0	V
Reverse leakage current	V_R = 50 V		I_R	—	—	200	nA
Diode capacitance	V_R = 0V, f = 1.0MHz	1N5711	C_{tot}	—	2.0	—	pF
		1N6263	C_{tot}	—	2.2	—	pF
Reverse recovery time	I_F = 5mA, I_R = 5mA, I_{rr} = 0.1m, R_L = 100 Ω		t_{rr}	—	—	1.0	ns

Ratings and Characteristic Curves T_{amb} = 25 °C unless otherwise specified

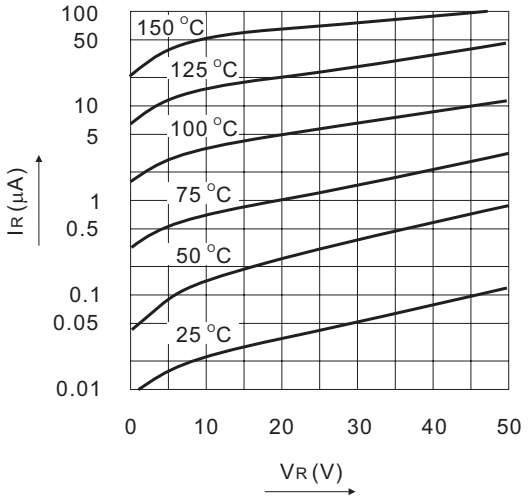
Typical variation of forward current versus forward voltage for primary conduction through the Schottky barrier



Typical forward conduction curve of combination Schottky barrier and PN junction guard ring



Typical variation of reverse current at various temperatures



Typical Diode capacitance curve as a function of reverse voltage