



Small Signal Switching Diode, High Voltage

Features

- · Silicon Epitaxial Planar Diode
- · AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



FREE



Applications

· General purpose

Mechanical Data

Case: DO-35

Weight: approx. 125 mg

Cathode band color: black Packaging codes/options:

TR/10 k per 13" reel (52 mm tape), 50 k/box TAP/10 k per Ammopack (52 mm tape), 50 k/box

Parts Table

Part	Ordering code	Type Marking	Remarks
BAY80	BAY80-TR or BAY80-TAP	BAY80	Tape and Reel/Ammopack

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Repetitive peak reverse voltage		V_{RRM}	150	V
Reverse voltage		V_{R}	120	V
Peak forward surge current	t _p = 1 μs	I _{FSM}	1	Α
Repetitive peak forward current		I _{FRM}	625	mA
Forward continuous current		I _F	250	mA
Average forward current		I _{FAV}	200	mA

Thermal Characteristics

 T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air	I = 4 mm, T _L = constant	R_{thJA}	350	K/W
Junction to ambient air		T _j	+ 175	°C
Storage temperature range		T _{stg}	- 65 to + 175	°C

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Electrical Characteristics

 T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Min.	Тур.	Max.	Unit
Forward voltage	I _F = 0.1 mA	V _F	400		520	mV
	I _F = 10 mA	V _F	630		780	mV
	I _F = 50 mA	V _F	730		920	mV
	I _F = 100 mA	V_{F}	780		1000	mV
	I _F = 150 mA	V _F			1070	mV
Reverse current	V _R = 120 V	I _R			100	nA
	V _R = 120 V, T _j = 150 °C	I _R			100	μΑ
Breakdown voltage	$I_R = 100 \mu A, t_p/T = 0.01,$ $t_p = 0.3 \text{ ms}$	V _(BR)	150			V
Diode capacitance	V _R = 0, f = 1 MHz	C _D		1.5	5	pF
Differential forward resistance	I _F = 10 mA	r _f		5		Ω
Reverse recovery time	$I_F = I_R = 30 \text{ mA}, i_R = 3 \text{ mA},$ $R_L = 100 \Omega$	t _{rr}			50	ns

Typical Characteristics

T_{amb} = 25 °C, unless otherwise specified

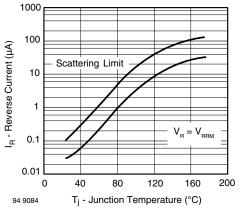


Figure 1. Reverse Current vs. Junction Temperature

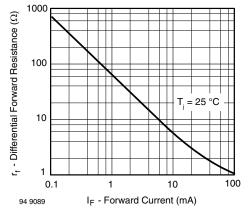


Figure 3. Differential Forward Resistance vs. Forward Current

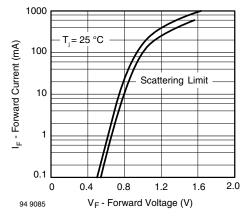
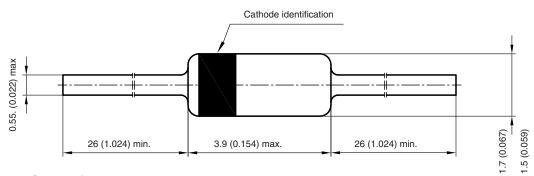


Figure 2. Forward Current vs. Forward Voltage



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Package Dimensions in millimeters (inches): DO-35



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