Small Signal Switching Diodes



FEATURES

- Silicon planar diodes
- Very low reverse current
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

HALOGEN FREE

APPLICATIONS

- Protection circuits, time delay circuits, peak follower circuits, logarithmic amplifiers

LINKS TO ADDITIONAL RESOURCES

3D Models

MECHANICAL DATA

Case: DO-35 (DO-204AH)
Weight: approx. 125 mg
Cathode band color: black
Packaging codes / options:
TR/10K per 13" reel (52 mm tape), 50K/box
TAP/10K per ammopack (52 mm tape), 50K/box

PARTS TABLE

PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS
BAS33	V_{RRM} = 40 V	BAS33-TAP or BAS33-TR	BAS33	Single	Tape and reel / ammopack
BAS34	V_{RRM} = 70 V	BAS34-TAP or BAS34-TR	BAS34	Single	Tape and reel / ammopack

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		BAS33	V_{RRM}	40	V
		BAS34	V_{RRM}	70	V
Reverse voltage		BAS33	V_R	30	V
		BAS34	V_R	60	V
Peak forward surge current	t_p = 1 µs		I_{FSM}	2	A
Forward continuous current			I_F	200	mA

THERMAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	l = 4 mm, T_L = constant	R_{thJA}	350	K/W
Junction temperature		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**	**PART**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Forward voltage	I_F = 100 mA		V_F			1	V
Reverse current	E ≤ 300 lx, V_R		I_R		1	3	nA
	E ≤ 300 lx, V_R, T_j = 125 °C		I_R			0.5	µA
	E ≤ 300 lx, V_R = 15 V	BAS33	I_R		0.5	1	nA
	E ≤ 300 lx, V_R = 30 V	BAS34	I_R		0.5	1	nA
Breakdown voltage	I_R = 5 µA, t_p/T = 0.01, t_p = 0.3 ms	BAS33	$V_{(BR)}$	40			V
		BAS34	$V_{(BR)}$	70			V
Diode capacitance	V_R = 0 V, f = 1 MHz,		C_D			3	pF

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

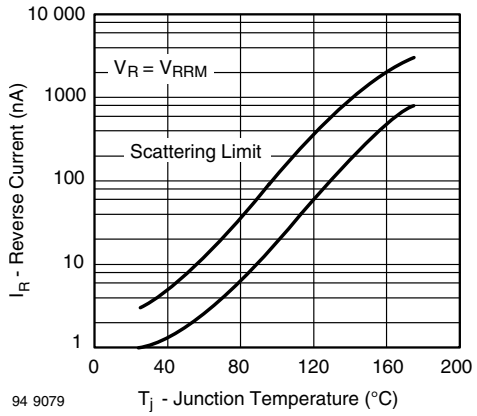


Fig. 1 - Reverse Current vs. Junction Temperature

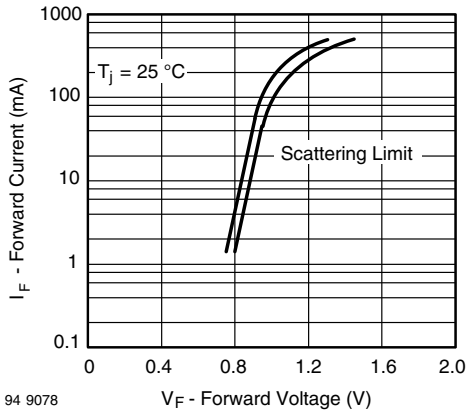
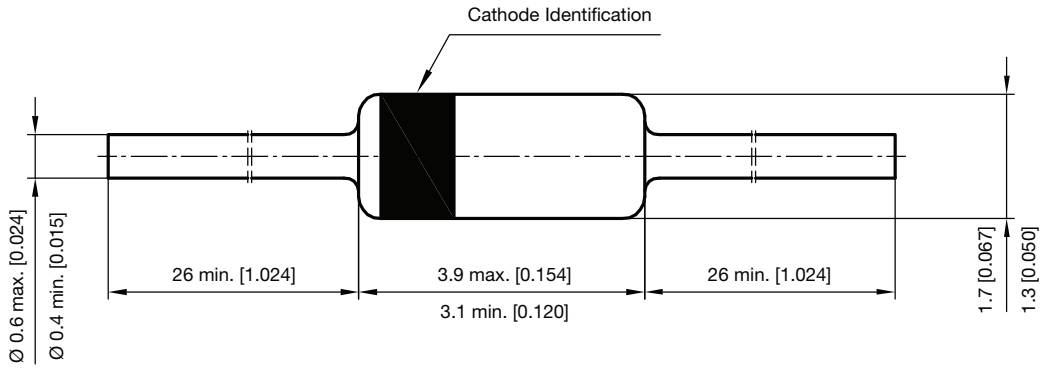


Fig. 2 - Forward Current vs. Forward Voltage

PACKAGE DIMENSIONS in millimeters (inches): DO-35 (DO-204AH)



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