

Vishay Semiconductors

Small Signal Fast Switching Diodes



FEATURES

- Silicon epitaxial planar diode
- Low forward voltage drop
- High forward current capability
- Material categorization: for definitions of compliance please see www.vishav.com/doc?99912







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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

LINKS TO ADDITIONAL RESOURCES

APPLICATIONS

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

PARTS TABLE						
PART	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS		
1N4150	1N4150TR or 1N4150TAP	1N4150	Single	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}	50	V		
Reverse voltage		V _R	50	V		
Peak forward surge current	t _p = 1 μs	I _{FSM}	4	Α		
Average peak forward current		I _{FRM}	600	mA		
Forward continuous current		I _F	300	mA		
Average forward current	V _R = 0	I _{F(AV)}	150	mA		
Downey disable ation	I = 4 mm, T _L = 45 °C	P _{tot}	440	mW		
Power dissipation	I = 4 mm, T _L ≤ 25 °C	P _{tot}	500	mW		

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 temperature		Tj	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.	TYP.	MAX.	UNIT	
	I _F = 1 mA	V _F	0.540		0.620	V	
	I _F = 10 mA	V _F	0.660		0.740	V	
Forward voltage	I _F = 50 mA	V _F	0.760		0.860	V	
	I _F = 100 mA	V _F	0.820		0.920	V	
	I _F = 200 mA	V _F	0.870		1	V	
Reverse current	V _R = 50 V	I _R			100	nA	
Reverse current	V _R = 50 V, T _j = 150 °C	I _R			100	μΑ	
Diode capacitance	$V_R = 0 \text{ V, f} = 1 \text{ MHz,}$ $V_{HF} = 50 \text{ mV}$	C _D			2.5	pF	
Reverse recovery time	$I_F = I_R = (10 \text{ to } 100) \text{ mA},$ $I_R = 0.1 \text{ x } I_R, R_L = 100 \Omega$	t _{rr}			4	ns	

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

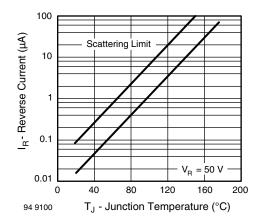


Fig. 1 - Reverse Current vs. Junction Temperature

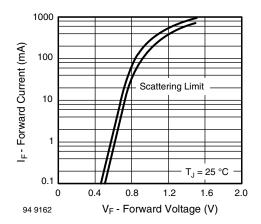
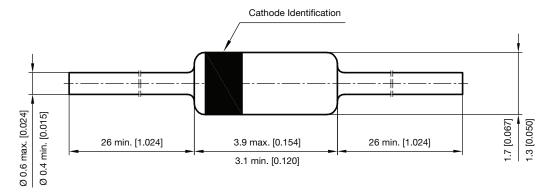


Fig. 2 - Forward Current vs. Forward Voltage

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



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