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Small Signal Fast Switching Diodes



FEATURES

- Silicon epitaxial planar diode
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

APPLICATIONS

• Extreme fast switches



ADDITIONAL RESOURCES



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	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS	
1N4154	1N4154TR or 1N4154TAP	1N4154	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}	35	V	
Reverse voltage		V _R	25	V	
Peak forward surge current	t _p = 1 μs	I _{FSM}	2	A	
Repetitive peak forward current		I _{FRM}	500	mA	
Forward continuous current		I _F	300	mA	
Average forward current	V _R = 0	I _{F(AV)}	150	mA	
Power dissipation	l = 4 mm, T _L = 45 °C	P _{tot}	440	mW	
	l = 4 mm, T _L \leq 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	$I = 4 \text{ mm}, T_L = \text{constant}$	R _{thJA}	350	K/W	
Junction temperature		Tj	175	°C	
Storage temperature range		T _{stg}	-65 to +175	°C	

Rev. 2.1, 24-Feb-2020

Document Number: 85524

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1N4154

ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I _F = 30 mA	V _F		0.88	1	V
Reverse current	V _R = 25 V	I _R		9	100	nA
neverse current	V _R = 25 V, T _j = 150 °C	I _R			100	μA
Breakdown voltage	$I_R = 5 \ \mu A, t_p/T = 0.01, t_p = 0.3 \ ms$	V _(BR)	35			V
Diode capacitance	$V_R = 0 V$, f = 1 MHz, $V_{HF} = 50 mV$	CD			4	pF
Bayaraa raaayan tima	$I_F = I_R = 10 \text{ mA},$ $i_R = 1 \text{ mA}$	+			4	20
Reverse recovery time	$I_{F} = 10 \text{ mA}, V_{R} = 6 \text{ V},$ $i_{R} = 0.1 \text{ x } I_{R}, R_{L} = 100 \Omega$	t _{rr}			2	ns

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

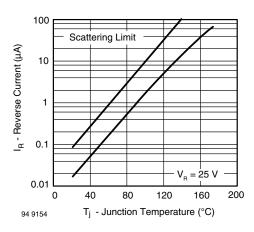


Fig. 1 - Reverse Current vs. Junction Temperature

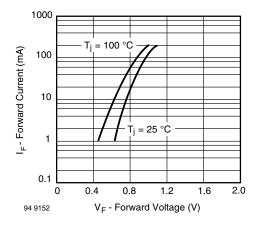


Fig. 2 - Forward Current vs. Forward Voltage

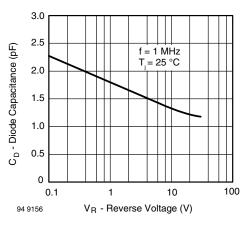


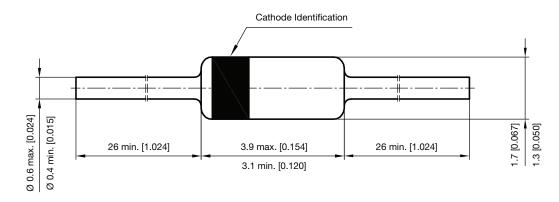
Fig. 3 - Diode Capacitance vs. Reverse Voltage

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



Rev. 6 - Date: 19. December 2011 Document no.: SB-V-3906.04-031(4) 94 9366



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Revision: 01-Jan-2024

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