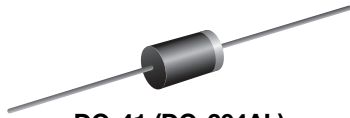




Fast Switching Plastic Rectifier



DO-41 (DO-204AL)

FEATURES

- Fast switching for high efficiency
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



TYPICAL APPLICATIONS

For use in fast switching rectification of power supply, inverters, converters and freewheeling diodes for consumer and telecommunication.

MECHANICAL DATA

Case: DO-41 (DO-204AL), molded epoxy body
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
3 suffix meets JESD 201 class 1A whisker test

Polarity: color band denotes cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.0 A
V_{RRM}	50 V, 100 V, 200 V, 400 V, 600 V
I_{FSM}	30 A
t_{rr}	200 ns
I_R	5.0 μ A
V_F	1.2 V
T_J max.	150 °C
Package	DO-41 (DO-204AL)
Circuit configuration	Single

MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)								
PARAMETER	SYMBOL	1N4933	1N4934	1N4935	1N4936	1N4937	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	V	
Maximum RMS voltage	V_{RMS}	35	70	145	280	420	V	
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	V	
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 75\text{ }^\circ\text{C}$	$I_{F(AV)}$	1.0						A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30						A
Maximum reverse recovery current	I_{RM}	2.0						A
Operating junction and storage temperature range	T_J, T_{STG}	-50 to +150						°C

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)								
PARAMETER	TEST CONDITIONS	SYMBOL	1N4933	1N4934	1N4935	1N4936	1N4937	UNIT
Maximum instantaneous forward voltage	1.0 A	V_F	1.2					V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^\circ\text{C}$	I_R	5.0					μ A
	$T_A = 100\text{ }^\circ\text{C}$		100					
Maximum reverse recovery time	$I_F = 1.0\text{ A}, V_R = 30\text{ V},$ $di/dt = 50\text{ A}/\mu\text{s}, I_{rr} = 10\% I_{RM}$	t_{rr}	200					ns
Typical junction capacitance	4.0 V, 1 MHz	C_J	12					pF



THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	1N4933	1N4934	1N4935	1N4936	1N4937	UNIT
Typical thermal resistance	$R_{\theta JA}$ ⁽¹⁾	55					°C/W
	$R_{\theta JL}$ ⁽¹⁾	25					

Note

(1) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5 mm) lead length, PCB mounted

ORDERING INFORMATION (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
1N4933-E3/54	0.33	54	5500	13" diameter paper tape and reel
1N4933-E3/73	0.33	73	3000	Ammo pack packaging

RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

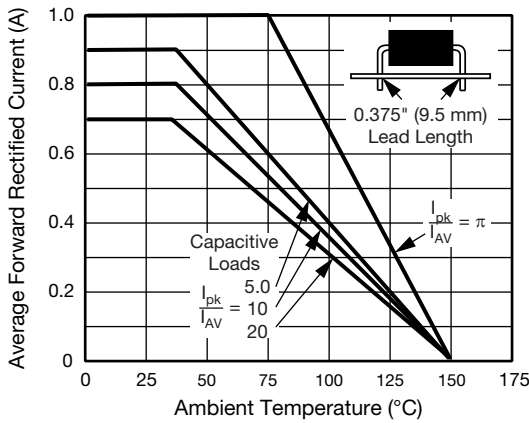


Fig. 1 - Forward Current Derating Curves

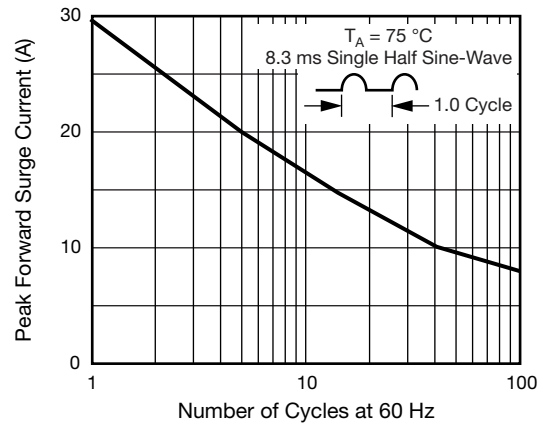


Fig. 3 - Maximum Non-repetitive Peak Forward Surge Current

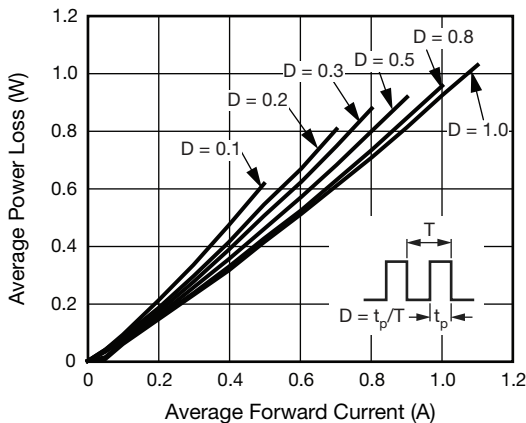


Fig. 2 - Forward Power Loss Characteristics

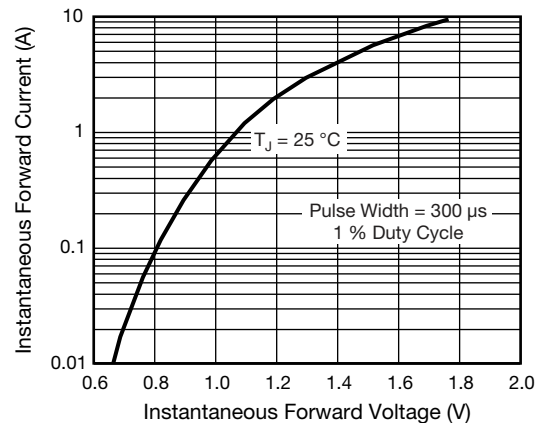


Fig. 4 - Typical Instantaneous Forward Characteristics

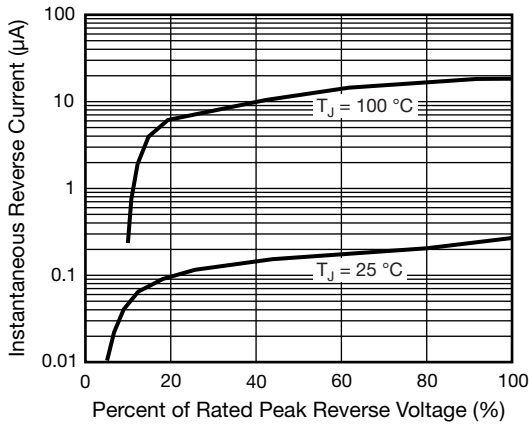


Fig. 5 - Typical Reverse Characteristics

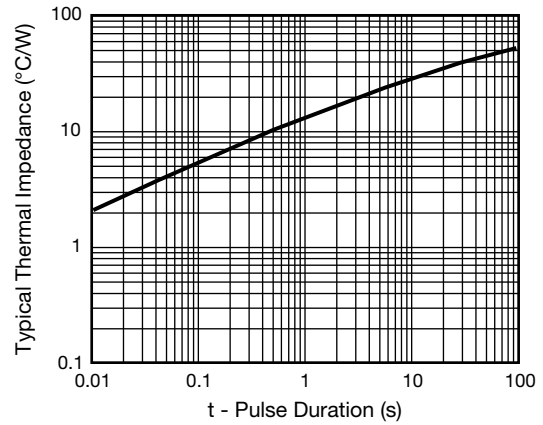


Fig. 7 - Typical Transient Thermal Impedance

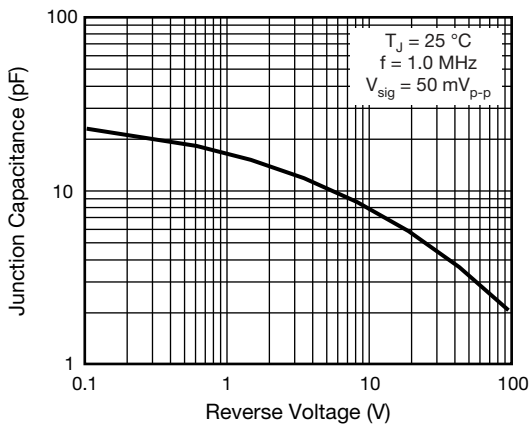
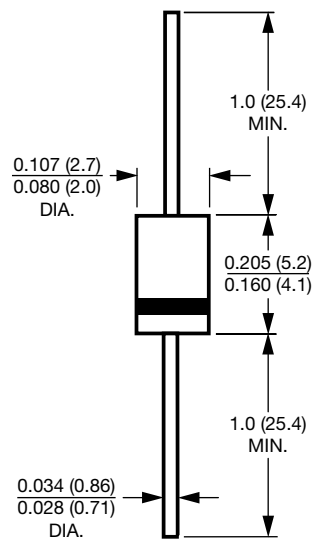


Fig. 6 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-41 (DO-204AL)



Note

- Lead diameter is $\frac{0.026 (0.66)}{0.023 (0.58)}$ for suffix "E" part numbers



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