HIGH-VOLTAGE SURFACE-MOUNT SWITCHING DIODE ARRAY

Features

- Two Series Diode Circuits Connect to Form Full Wave Bridge
- Fast Switching Speed: Maximum of 50ns
- High Reverse Breakdown Voltage Rating: 350V
- Low Reverse Current: Maximum of 100nA when V_R = 240V at Room Temperature
- New Cutting-Edge Process Technology Used
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please contact us or your local Diodes representative. https://www.diodes.com/quality/product-definitions/)**

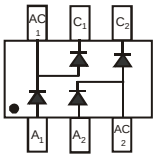
Mechanical Data

- Package: SOT26
- Package Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Matte Tin Plated Leads (Lead-Free Plating). Solderable per MIL-STD-202, Method 208 e3
- Polarity: See Diagram
- Weight: 0.016 grams (Approximate)

SOT26



Top View



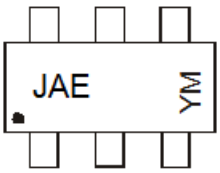
Top View
Internal Schematic

Ordering Information (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
DHVSD3004BRM-7	SOT26	3,000	Tape & Reel

Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

Marking Information



JAE = Product Type Marking Code
YM = Date Code Marking; A Bar on Top of the 'Y' Denotes Assembly & Test Site
Y = Year (ex: L = 2024)
M = Month (ex: 9 = September)

Date Code Key

Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Code	J	K	L	M	N	P	R	S	T	U	V	W

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

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Maximum Ratings (@T_A = +25°C unless otherwise specified.)

Characteristic		Symbol	Value	Unit
Repetitive Peak Reverse Voltage		V_{RRM}	350	V
Working Peak Reverse Voltage DC Blocking Voltage		V_{RWM} V_R	300	V
Forward Continuous Current (Note 5)		I_F	225	mA
Peak Repetitive Forward Current (Note 5)		I_{FRM}	625	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 10ms @ t = 1.0s	I_{FSM}	4.0 1.0 0.5	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_D	350	mW
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{\theta JA}$	357	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	350	—	—	V	I_R = 150μA
Forward Voltage	V_F	— — —	— — —	0.87 1.05 1.20	V	I_F = 20mA I_F = 100mA I_F = 200mA
Reverse Current (Note 6)	I_R	— —	— —	100 35	nA μA	V_R = 240V V_R = 240V, T_J = +150°C
Total Capacitance	C_T	—	—	5.0	pF	V_R = 0V, f = 1.0MHz
Reverse Recovery Time	t_{rr}	—	—	50	ns	I_F = I_R = 10mA I_{rr} = 0.1 x I_R, R_L = 100Ω

Notes: 5. Part mounted on FR-4 board 1inch squared cu pad layout.
6. Short duration pulse test used to minimize self-heating effect.

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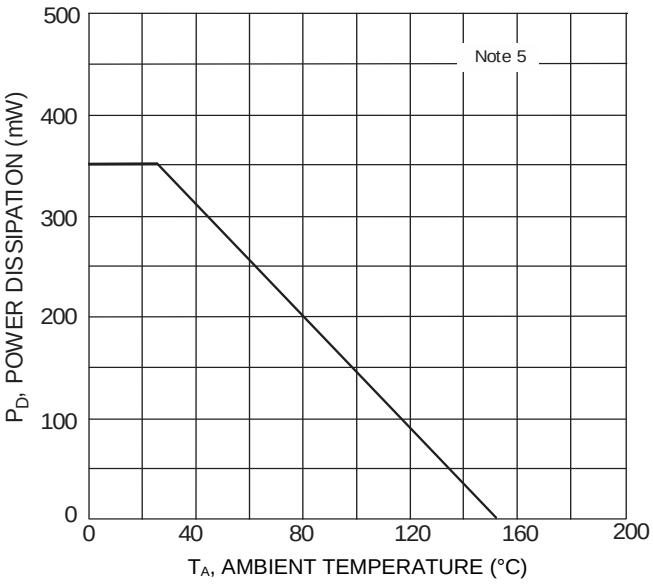


Figure 1. Power Derating Curve, Total Package

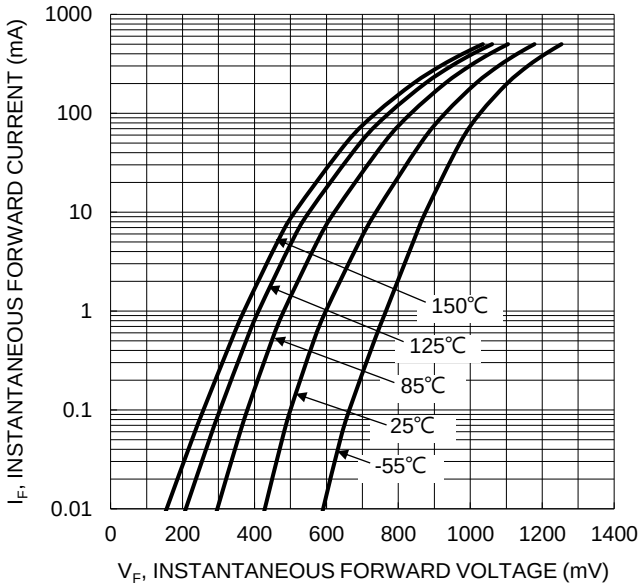


Figure 2. Typical Forward Characteristics, Per Element

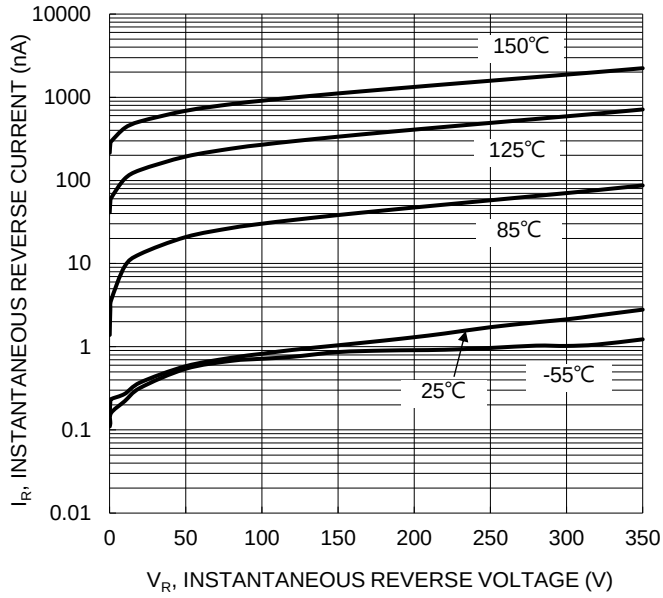


Figure 3. Typical Reverse Characteristics, Per Element

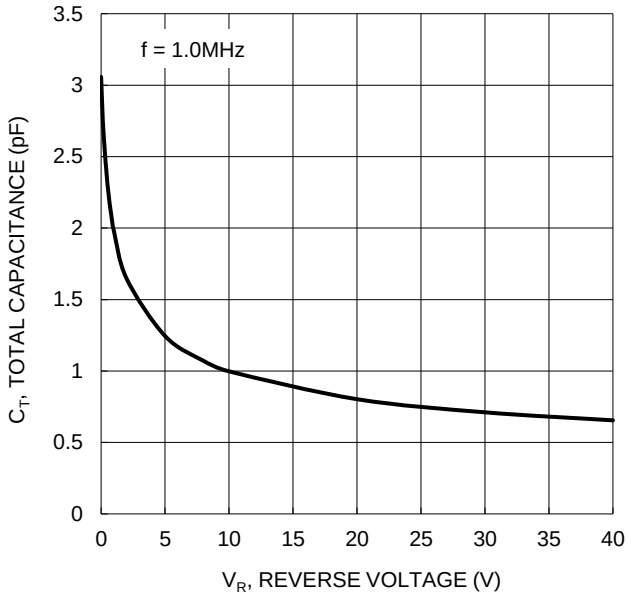


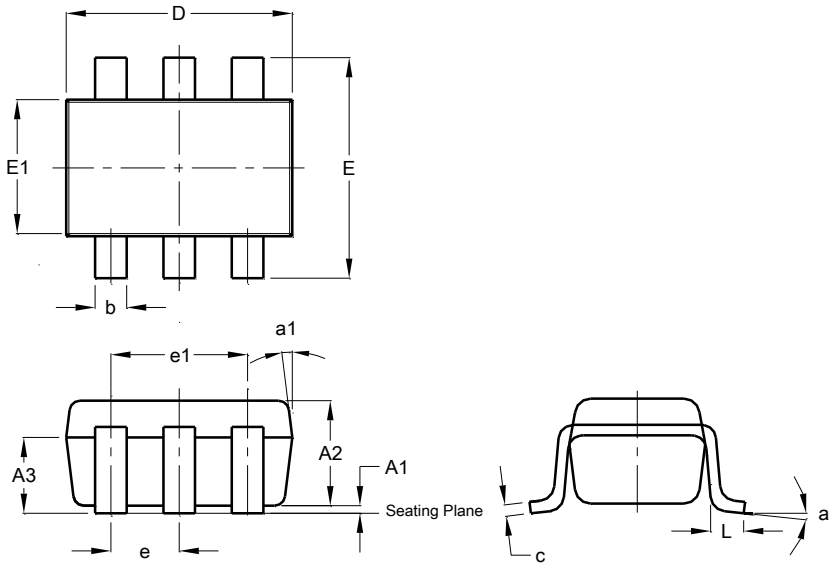
Figure 4. Typical Total Capacitance, Per Element

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Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT26

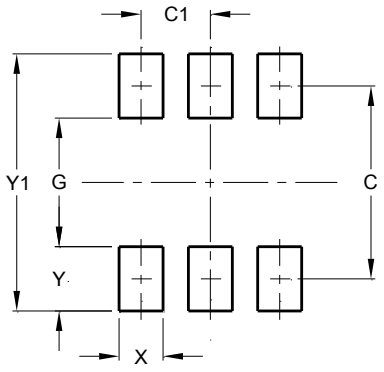


SOT26			
Dim	**Min**	**Max**	**Typ**
A1	0.013	0.10	0.05
A2	1.00	1.30	1.10
A3	0.70	0.80	0.75
b	0.35	0.50	0.38
c	0.10	0.20	0.15
D	2.90	3.10	3.00
e	-	-	0.95
e1	-	-	1.90
E	2.70	3.00	2.80
E1	1.50	1.70	1.60
L	0.35	0.55	0.40
a	-	-	8°
a1	-	-	7°
All Dimensions in mm			

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT26



Dimensions	Value (in mm)
C	2.40
C1	0.95
G	1.60
X	0.55
Y	0.80
Y1	3.20

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