

DUAL SURFACE MOUNT LOW LEAKAGE DIODE

Features

- Surface Mount Package Ideally Suited for Automated Insertion
- Suitable for Ultra-Low Leakage Current Applications, Including High-Precision Instrumentation And Portable Electronics
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability
- PPAP Capable (Note 4)

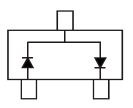
Mechanical Data

- Case: SOT323
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish Matte Tin Finish Annealed over Alloy 42 Leadframe. Solderable per MIL-STD-202, Method 208 (33)
- · Polarity: See Diagram
- Weight: 0.006 grams (Approximate)





Top View



Top View Internal Schematic

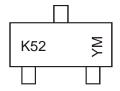
Ordering Information (Notes 4 & 5)

Part Number	Compliance	Case	Packaging
BAV199WQ-7	Automotive	SOT323	3,000/Tape & Reel

Notes:

- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
- See http://www.diodes.com/quality/lead_free.html 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. Automotive products are AEC-Q101 qualified and are PPAP capable. Refer to http://www.diodes.com/product_compliance_definitions.html.
- 5. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information



K52= Product Type Marking Code YM = Date Code Marking Y = Year (ex: D = 2016) M = Month (ex: 9 = September)

Date Code Key

Year	2011	20	12	2013		20	16	2017	2018	20	19	2020
Code	Υ	Ž	7	Α)	Е	F	(3	Н
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D



Maximum Ratings (@ $T_A = +25^{\circ}C$, unless otherwise specified.)

Characteristic		Symbol	Value	Unit	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _R WM V _R	85	V		
RMS Reverse Voltage	V _{R(RMS)}	60	V		
Forward Continuous Current (Note 6) Single Diode Double Diode		I _{FM}	160 140	mA	
Repetitive Peak Forward Current (Note 6)	I _{FRM}	500	mA		
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 1.0ms @ t = 1.0s	I _{FSM}	4.0 1.0 0.5	А	

Thermal Characteristics

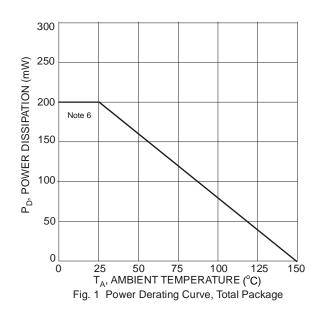
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	P_{D}	200	mW
Thermal Resistance Junction to Ambient Air (Note 6)	$R_{ hetaJA}$	625	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

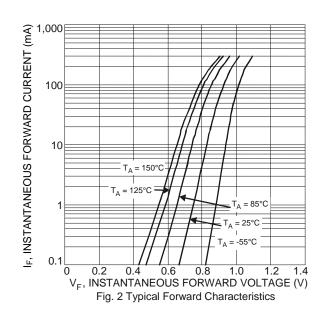
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	$V_{(BR)R}$	85	_	_	V	$I_R = 100 \mu A$
Forward Voltage	V _F	_	_	0.90 1.0 1.1 1.25	٧	I _F = 1.0mA I _F = 10mA I _F = 50mA I _F = 150mA
Leakage Current (Note 7)	I _R	_	_	5.0 80	nA nA	$V_R = 75V$ $V_R = 75V$, $T_J = +150$ °C
Total Capacitance	Ст	_	2	_	рF	$V_R = 0$, $f = 1.0MHz$
Reverse Recovery Time	t _{RR}	_	_	3.0	μS	$I_F = I_R = 10 \text{mA},$ $I_{RR} = 0.1 \text{ x } I_R, R_L = 100 \Omega$

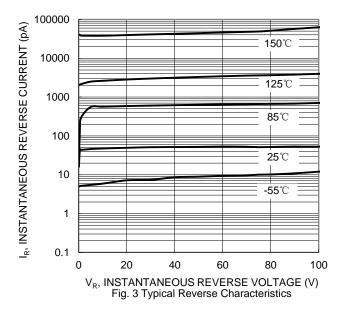
Notes:

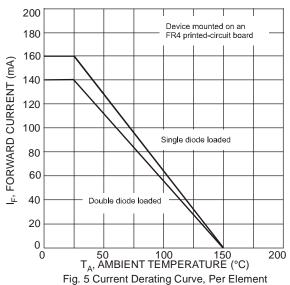
- 6. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com/package-outlines.html.
- 7. Short duration pulse test used to minimize self-heating effect.

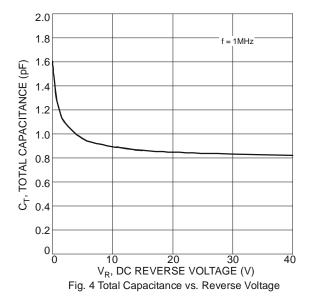










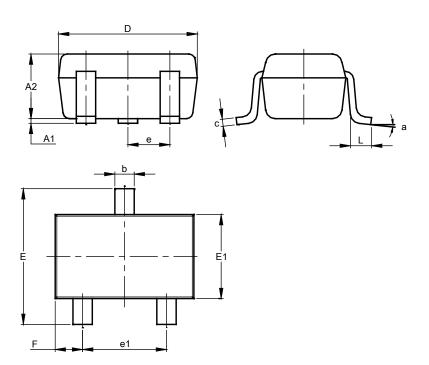




Package Outline Dimensions

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

SOT323

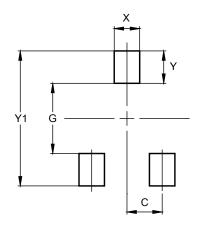


SOT323							
Dim	Min Max		Тур				
A1	0.00	0.10	0.05				
A2	0.90	1.00	0.95				
b	0.25	0.40	0.30				
С	0.10	0.18	0.11				
D	1.80	2.20	2.15				
Е	2.00	2.20	2.10				
E1	1.15	1.35	1.30				
е	0.650 BSC						
e1	1.20	1.40	1.30				
F	0.375	0.475	0.425				
L	0.25	0.40	0.30				
а	0°	8°					
All Dimensions in mm							

Suggested Pad Layout

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

SOT323



Dimensions	Value (in mm)
С	0.650
G	1.300
X	0.470
Y	0.600
V1	2 500



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