Onsemi

Switching Diode, Dual, High Voltage, Common Cathode

BAV23CL, NSVBAV23CL

Features

- Moisture Sensitivity Level: 1
- ESD Rating Human Body Model: Class 2 - Machine Model: Class C
- Fast Switching Speed
- Switching Application
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

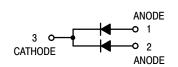
Typical Applications

- LCD TV
- Power Supply
- Industrial

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	V _R	250	V
Repetitive Peak Reverse Voltage	V _{RRM}	250	V
Peak Forward Current	١ _F	400	mA
$ \begin{array}{ll} \mbox{Non-Repetitive Peak} & @\ t = 1.0 \ \mu s \\ \mbox{Forward Surge Current} & @\ t = 100 \ \mu s \\ @\ t = 10 \ m s \\ \end{array} $	I _{FSM}	9.0 3.0 1.7	A
Peak Forward Surge Current	I _{FM(surge)}	625	mAdc
Non-Repetitive Peak Per Human Body Model Per Machine Model	HBM MM	4.0 400	kV V

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.





MARKING DIAGRAM



AA = Specific Device Code Μ

= Date Code

= Pb-Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping [†]
BAV23CLT1G	SOT-23 (Pb-Free)	3000 / Tape & Reel
BAV23CLT3G	SOT-23 (Pb-Free)	10000 / Tape & Reel
NSVBAV23CLT1G	SOT-23 (Pb-Free)	3000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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THERMAL CHARACTERISTICS

Characteristic	Symbol	Мах	Unit
SINGLE HEATED			•
Total Device Dissipation (Note 1) T _A = 25°C Derate above 25°C	P _D	265 2.1	mW mW/°C
Thermal Resistance, Junction-to-Ambient (Note 1)	$R_{ ext{ heta}JA}$	472	°C/W
Thermal Reference, Junction-to-Anode Lead (Note 1)	R_ _{yJL}	263	°C/W
Thermal Reference, Junction-to-Case (Note 1)	$R_{\psi_{JC}}$	289	°C/W
Total Device Dissipation (Note 2) T _A = 25°C Derate above 25°C	PD	345 2.7	mW mW/°C
Thermal Resistance, Junction-to-Ambient (Note 2)	$R_{ ext{ heta}JA}$	362	°C/W
Thermal Reference, Junction-to-Anode Lead (Note 2)	R_ψ _{JL}	251	°C/W
Thermal Reference, Junction-to-Case (Note 2)	R_ψ _{JC}	250	°C/W
DUAL HEATED (Note 3)			
Total Device Dissipation (Note 1) T _A = 25°C Derate above 25°C	PD	390 3.1	mW mW/°C
Thermal Resistance, Junction-to-Ambient (Note 1)	R _{θJA}	321	°C/W
Thermal Reference, Junction-to-Anode Lead (Note 1)	R_ψ _{JL}	159	°C/W
Thermal Reference, Junction-to-Case (Note 1)	R_ _{yJC}	138	°C/W
Total Device Dissipation (Note 2) T _A = 25°C Derate above 25°C	P _D	540 4.3	mW mW/°C
Thermal Resistance, Junction-to-Ambient (Note 2)	$R_{ extsf{ heta}JA}$	231	°C/W
Thermal Reference, Junction-to-Anode Lead (Note 2)	R_ _{yJL}	148	°C/W
Thermal Reference, Junction-to-Case (Note 2)	R_ _{yJC}	119	°C/W
Junction and Storage Temperature Range	T _J , T _{stg}	-55 to +150	°C

1. FR-4 @ 100 mm², 1 oz. copper traces, still air. 2. FR-4 @ 500 mm², 2 oz. copper traces, still air.

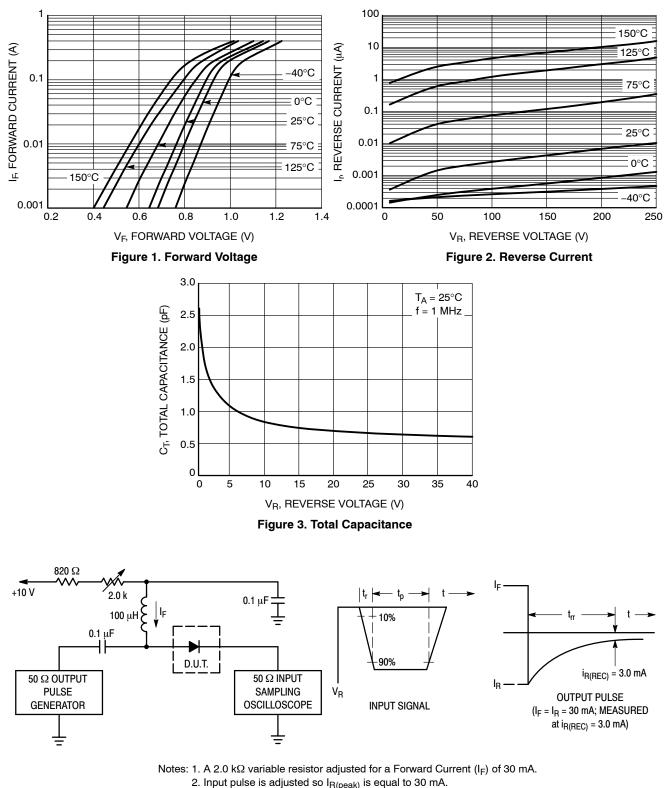
3. Dual heated values assume total power is sum of two equally powered channels

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS			·	
Reverse Voltage Leakage Current ($V_R = 200 \text{ Vdc}$) ($V_R = 200 \text{ Vdc}$, $T_J = 150^{\circ}\text{C}$)	I _R		0.1 100	μAdc
Reverse Breakdown Voltage (I _{BR} = 100 μAdc)	V _(BR)	250	-	Vdc
Forward Voltage ($I_F = 100 \text{ mAdc}$) ($I_F = 200 \text{ mAdc}$)	V _F		1000 1250	mV
Diode Capacitance (V _R = 0, f = 1.0 MHz)	CT	-	5.0	pF
Reverse Recovery Time ($I_F = I_R = 30 \text{ mAdc}, R_L = 100 \Omega$)	t _{rr}	-	150	ns

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

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3. t_p » t_{rr}



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