





SURFACE MOUNT SWITCHING DIODE

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automated Insertion
- For General Purpose Switching Applications
- High Conductance
- Lead Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 3 and 4)

Mechanical Data

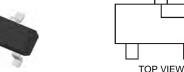
- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagram

Internal Schematic

- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.008 grams (approximate)

SOT-23





Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Value	Unit	
Non-Repetitive Peak Reverse Voltage		V_{RM}	100	V	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V _{RRM} V _{RWM} V _R	75	V	
RMS Reverse Voltage		V _{R(RMS)}	53	V	
Forward Continuous Current (Note 1)		I _{FM}	300	mA	
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 1.0s	I _{FSM}	2.0 1.0	А	

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P _D	350	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{ hetaJA}$	357	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

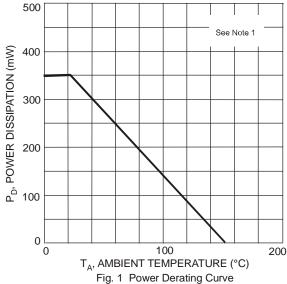
Electrical Characteristics @T_A = 25°C unless otherwise specified

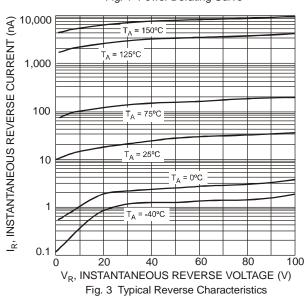
Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	75	_	V	$I_R = 100 \mu A$
Forward Voltage	V _F		0.715 0.855 1.0 1.25	V	$I_F = 1.0$ mA $I_F = 10$ mA $I_F = 50$ mA $I_F = 150$ mA
Reverse Current (Note 2)	I _R		2.5 50 30 25	μΑ μΑ μΑ nA	$V_R = 75V$ $V_R = 75V$, $T_J = 150$ °C $V_R = 25V$, $T_J = 150$ °C $V_R = 20V$
Total Capacitance	C _T	_	2.0	pF	$V_R = 0, f = 1.0MHz$
Reverse Recovery Time	t _{rr}		4.0	ns	$I_F = I_R = 10 \text{mA},$ $I_{rr} = 0.1 \text{ x } I_R, R_L = 100 \Omega$

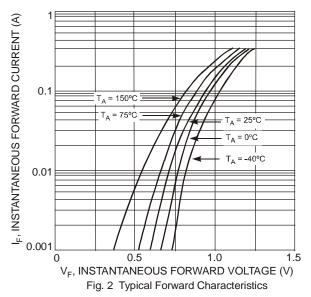
Notes:

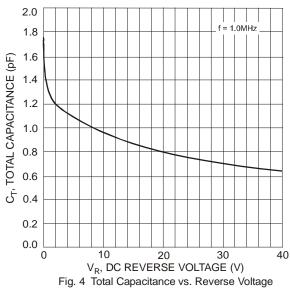
- Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
- Short duration pulse test used to minimize self-heating effect. No purposefully added lead. Halogen and Antimony Free.
- Product manufactured with Data Code V9 (week 33, 2008) and newer are built with Green Molding Compound. Product manufactured prior to Date Code V9 are built with Non-Green Molding Compound and may contain Halogens or Sb₂O₃ Fire Retardants.











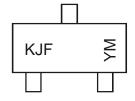
Ordering Information (Note 5)

Part Number	Case	Packaging
BAL99-7-F	SOT-23	3000/Tape & Reel

Notes:

5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



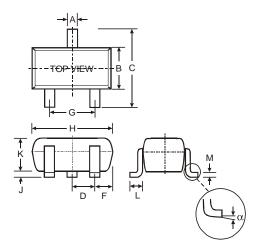
KJF = Product Type Marking Code YM = Date Code Marking Y = Year ex: N = 2002 M = Month ex: 9 = September

Date Code Key

Date Code Ney															
Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	J	K	L	М	N	Р	R	S	Т	U	V	W	Х	Υ	Z
Month	Jan	F	eb	Mar	Apr	May	/ J	un	Jul	Aug	Sep	00	ct	Nov	Dec
Code	1		2	3	4	5		6	7	8	9	С)	N	D

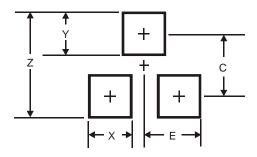


Package Outline Dimensions



SOT-23						
Dim	Min	Max				
Α	0.37	0.51				
В	1.20	1.40				
С	2.30	2.50				
D	0.89	1.03				
F	0.45	0.60				
G	1.78	2.05				
Н	2.80	3.00				
J	0.013	0.10				
K	0.903	1.10				
L	0.45	0.61				
М	0.085	0.180				
α	α 0° 8°					
All Dimensions in mm						

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.9
Х	0.8
Y	0.9
С	2.0
E	1.35

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