





#### **DUAL SURFACE MOUNT LOW LEAKAGE DIODE**

### **Features**

- Surface Mount Package Ideally Suited for Automated Insertion
- Very Low Leakage Current
- Lead, Halogen, and Antimony Free, RoHS Compliant (Note 1)
- "Green" Device (Notes 2 & 3)
- · Qualified to AEC-Q101 Standards for High Reliability

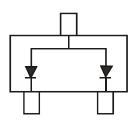
## **Mechanical Data**

- Case: SOT23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 0.008 grams (approximate)





Top View



Top View Internal Schematic

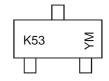
## **Ordering Information** (Note 4)

Part Number	Qualification	Case	Packaging
BAW156-7-F	Commercial	SOT23	3,000/Tape & Reel
BAW156-13-F	Commercial	SOT23	10,000/Tape & Reel
BAW156Q-7-F	Automotive	SOT23	3,000/Tape & Reel
BAW156Q-13-F	Automotive	SOT23	10,000/Tape & Reel

Notes:

- 1. No purposefully added lead.
- 2. Product manufactured with Date 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 Sb<sub>2</sub>O<sub>3</sub> Fire Retardants.
- 3. Diodes Inc.'s "Green" Policy can be found on our website at http://www.diodes.com
- 4. For packaging details, go to our website at http://www.diodes.com.

## **Marking Information**



K53 = Product Type Marking Code YM = Date Code Marking Y = Year (ex: Y = 2011) M = Month (ex: 9 = September)

Date Code Key

Year	1998	1999		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Code	J	K		Т	U	V	W	Х	Υ	Z	Α	В	C	D	Е
Month	Jan	Fe	b	Mar	Apr	May	Ju	ın	Jul	Aug	Sep	Oc	t	Nov	Dec
Code	1	2	!	3	4	5	6	;	7	8	9	0		N	D



## Maximum Ratings @TA = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V <sub>RRM</sub> V <sub>R</sub> WM V <sub>R</sub>	85	V
RMS Reverse Voltage		V <sub>R(RMS)</sub>	60	V
Forward Continuous Current (Note 5)	Single diode Double diode	I <sub>FM</sub>	160 140	mA
Repetitive Peak Forward Current (Note 5)		I <sub>FRM</sub>	500	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 1.0ms @ t = 1.0s	I <sub>FSM</sub>	4.0 1.0 0.5	А

# **Thermal Characteristics**

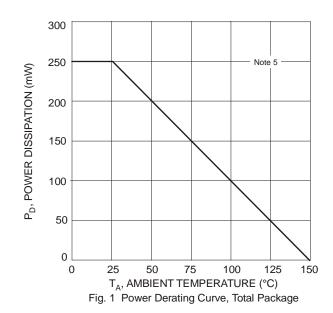
Characteristic	Symbol	Value	Unit	
Power Dissipation (Note 5)	$P_{D}$	250	mW	
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{ hetaJA}$	500	°C/W	
Operating and Storage Temperature Range	$T_J,T_STG$	-65 to +150	°C	

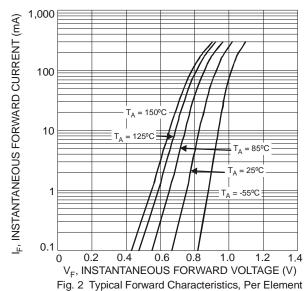
# **Electrical Characteristics** @TA = 25°C unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	85	_	_	V	$I_R = 100 \mu A$
Forward Voltage	V <sub>F</sub>	_	_	0.90 1.0 1.1 1.25	V	I <sub>F</sub> = 1.0mA I <sub>F</sub> = 10mA I <sub>F</sub> = 50mA I <sub>F</sub> = 150mA
Leakage Current (Note 6)	I <sub>R</sub>	_	_	5.0 80	nA nA	$V_R = 75V$ $V_R = 75V$ , $T_J = 150$ °C
Total Capacitance	C <sub>T</sub>	_	3	_	pF	V <sub>R</sub> = 0, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	_	_	3.0	μS	$I_F = I_R = 10 \text{mA},$ $I_{rr} = 0.1 \times I_R, R_L = 100 \Omega$

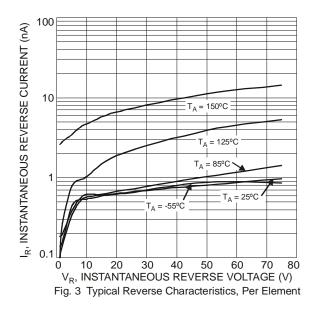
Notes:

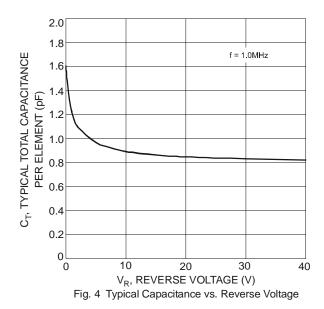
- 5. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com.
- 6. Short duration pulse test used to minimize self-heating effect.



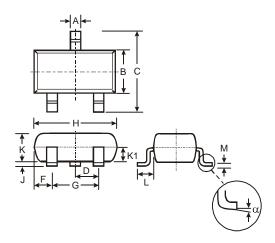






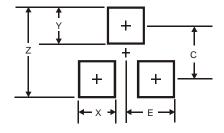


# **Package Outline Dimensions**



SOT23								
Dim	Min	Max	Тур					
Α	0.37	0.51	0.40					
В	1.20	1.40	1.30					
С	2.30	2.50	2.40					
D	0.89	1.03	0.915					
F	0.45	0.60	0.535					
G	1.78	2.05	1.83					
Н	2.80	3.00	2.90					
J	0.013	0.10	0.05					
K	0.903	1.10	1.00					
K1	-	-	0.400					
L	0.45	0.61	0.55					
M	0.085	0.18	0.11					
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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