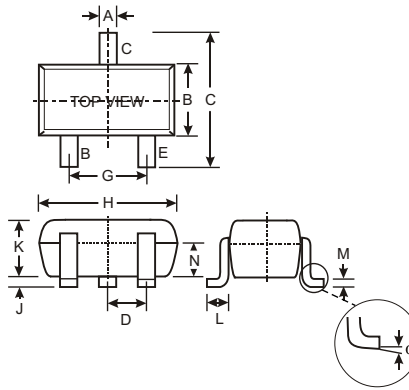


### Features

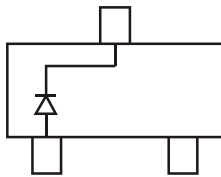
Low Forward Voltage Drop  
 Fast Switching  
 Ultra-Small Surface Mount Package  
 PN Junction Guard Ring for Transient and ESD Protection

### Mechanical Data

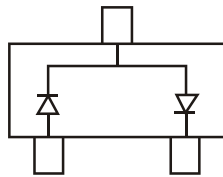
Case: SOT-523, Molded Plastic  
 Case material - UL Flammability Rating 94V-0  
 Moisture sensitivity: Level 1 per J-STD-020A  
 Terminals: Solderable per MIL-STD-202, Method 208  
 Polarity: See Diagrams Below  
 Marking: See Diagrams Below (& Page 2)  
 Weight: 0.002 grams (approx.)  
 Ordering Information, see Page 2



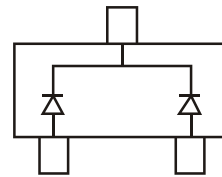
SOT-523			
Dim	Min	Max	Typ
A	0.15	0.30	0.22
B	0.75	0.85	0.80
C	1.45	1.75	1.60
D			0.50
G	0.90	1.10	1.00
H	1.50	1.70	1.60
J	0.00	0.10	0.05
K	0.60	0.80	0.75
L	0.10	0.30	0.22
M	0.10	0.20	0.12
N	0.45	0.65	0.50
	0	8	
All Dimensions in mm			



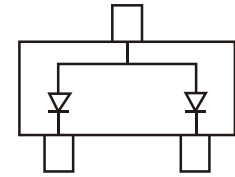
BAS40T Marking: 43



BAS40-04T Marking: 44



BAS40-05T Marking: 45



BAS40-06T Marking: 46

### Maximum Ratings @ T<sub>A</sub> = 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>RWM</sub> V <sub>R</sub>	40	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	28	V
Forward Continuous Current (Note 1)	I <sub>FM</sub>	200	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0s	I <sub>FSM</sub>	600	mA
Power Dissipation (Note 1)	P <sub>d</sub>	150	mW
Thermal Resistance Junction to Ambient (Note 1)	R <sub>JA</sub>	833	°C/W
Operating Temperature Range	T <sub>j</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +150	°C

### Electrical Characteristics @ T<sub>A</sub> = 25 °C unless otherwise specified

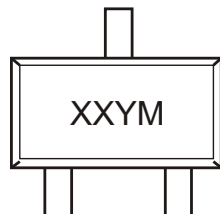
Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	V <sub>(BR)R</sub>	40		V	I <sub>R</sub> = 10 μA
Forward Voltage (Note 2)	V <sub>F</sub>		380 1000	mV mV	I <sub>F</sub> = 1.0mA, t <sub>p</sub> < 300 μs I <sub>F</sub> = 40mA, t <sub>p</sub> < 300 μs
Leakage Current (Note 2)	I <sub>R</sub>		200	nA	V <sub>R</sub> = 30V
Total Capacitance	C <sub>T</sub>		5.0	pF	V <sub>R</sub> = 0, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>		5.0	ns	I <sub>F</sub> = I <sub>R</sub> = 10mA, I <sub>rr</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100 Ω

Notes: 1. Device mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.  
 2. Short duration test pulse used to minimize self-heating effect.

**Ordering Information** (Note 3)

Device	Packaging	Shipping
BAS40T-7	SOT-523	3000/Tape & Reel
BAS40-04T-7	SOT-523	3000/Tape & Reel
BAS40-05T-7	SOT-523	3000/Tape & Reel
BAS40-06T-7	SOT-523	3000/Tape & Reel

Notes: 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**

XX = Product Type Marking Code (See Page 1, e.g. 43 = BAS40T)

YM = Date Code Marking

Y = Year (ex: N = 2002)

M = Month (ex: 9 = September)

## Date Code Key

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Code	L	M	N	P	R	S	T	U	V	W

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