

## Schottky Barrier Diode

### Features

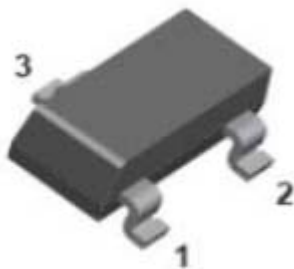
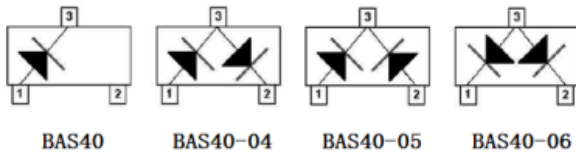
- Moisture sensitivity level 1
- Reverse voltage: 40V
- Average forward current : 200mA

### Application

- Signal switching
- High frequency rectifier

### Mechanical data

- **Package:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102



### ■ Maximum Ratings (T<sub>a</sub>=25°C Unless otherwise specified)

Parameter	Symbol	Unit	Value	
			Part	Value
Device marking code			BAS40WT	43
			BAS40WT -04	44
			BAS40WT -05	45
			BAS40WT -06	46
Repetitive peak reverse voltage	V <sub>RRM</sub>	V	40	
Forward current, per leg	I <sub>F</sub>	mA	200	
Non-repetitive surge peak forward current @ t=8.3ms half-sine wave	I <sub>FSM</sub>	A	0.6	
Non-repetitive surge peak forward current @ t=1ms square wave			2	
Power dissipation	P <sub>D</sub>	mW	200	
Junction temperature	T <sub>J</sub>	°C	-55 to +125	
Storage temperature	T <sub>STG</sub>	°C	-55 to +125	



# BAS40WT THRU BAS40WT-06

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## ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

Parameter	Symbol	UNIT	Conditions	Min	TYP	Max
Reverse voltage	V <sub>R</sub>	V	I <sub>R</sub> =10μA	40		
Forward voltage	V <sub>F1</sub>	mV	I <sub>F</sub> =1mA			380
	V <sub>F2</sub>	mV	I <sub>F</sub> =40mA			1000
Reverse leakage current	I <sub>R</sub>	nA	V <sub>R</sub> =30V			200
Junction capacitance	C <sub>j</sub>	pF	V <sub>R</sub> =0V, f=1MHz			5
Reverse recovery time	T <sub>rr</sub>	ns	I <sub>F</sub> =I <sub>R</sub> =5mA, I <sub>rr</sub> =0.1*I <sub>R</sub> , R <sub>L</sub> =100Ω			5

## ■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R <sub>θJ-A</sub> <sup>(1)</sup>	°C/W	500
Thermal resistance, junction-to-case	R <sub>θJ-C</sub> <sup>(1)</sup>	°C/W	400

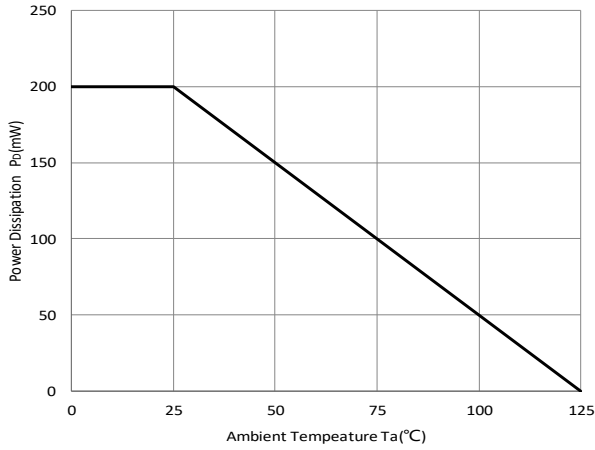
### Note:

(1) Device mounted on PCB, single-sided copper, with standard footprint

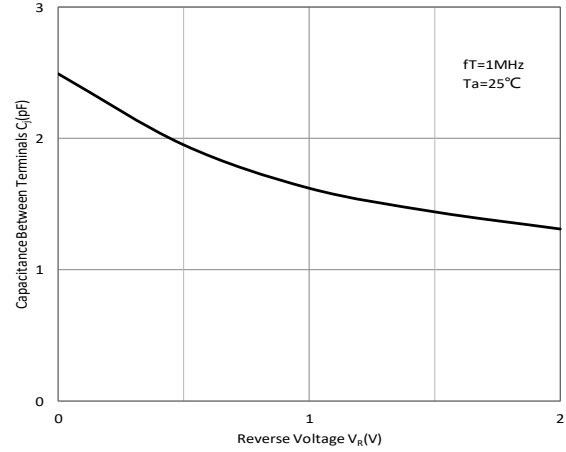


## ■ Characteristics

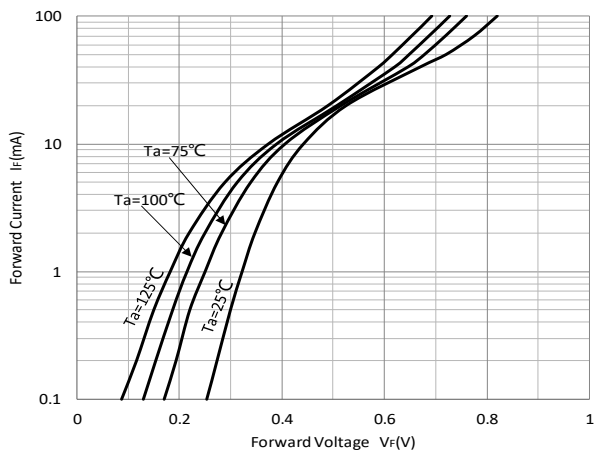
**Fig 1:  $P_D$ - $T_a$  Curve**



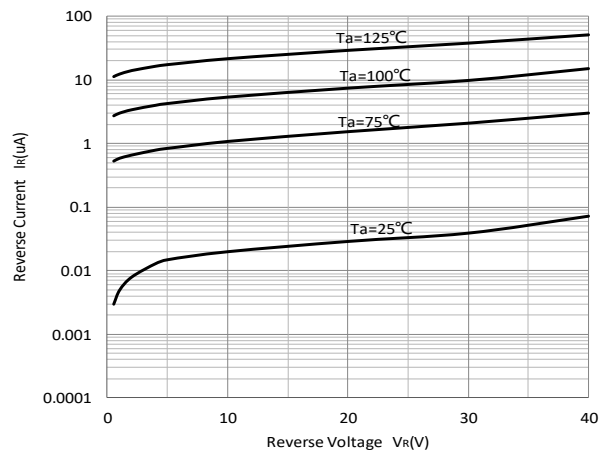
**Fig 2: Capacitance Capability**



**Fig 3: Typical Forward Characteristics**



**Fig 4: Typical Reverse Characteristics**





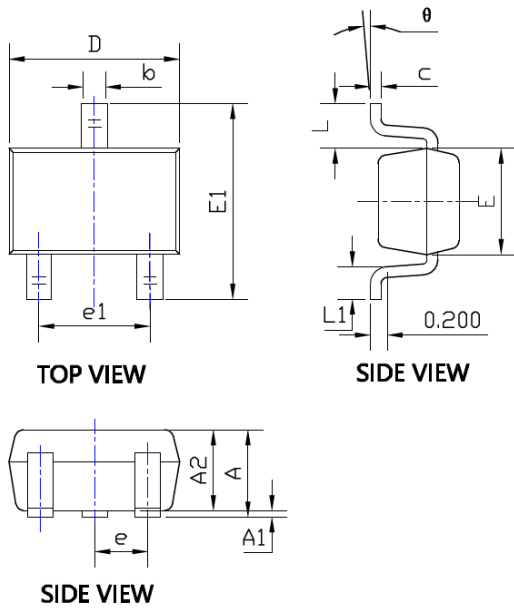
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## Ordering Information

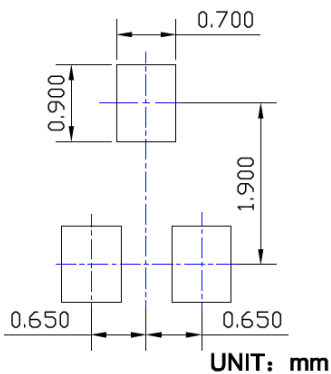
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity (pcs)	Delivery mode
BAS40WT THRU BAS40WT-06	F2	Approximate 0.005	3000	30000	120000	7" reel

## Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.016	0.150	0.400
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026 TYP		0.650 TYP	
e1	0.047	0.055	1.200	1.400
L	0.021 REF		0.525 REF	
L1	0.010	0.018	0.260	0.460
theta	0°	8°	0°	8°

## Suggested Pad Layout





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