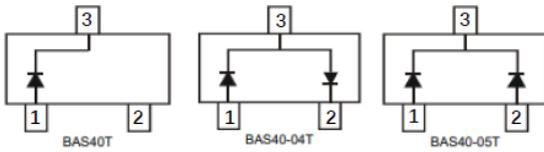
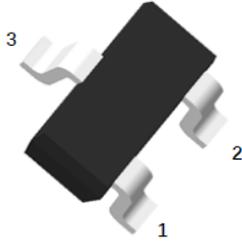


## Schottky Barrier Diode



### Features

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

### Application

- High frequency rectifier
- Signal switching

### Mechanical data

- **Package:** SOT-523
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

### ■ Maximum Ratings ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

Parameter	Symbol	Unit	Conditions	Value
Device marking code			BAS40T	43
			BAS40-04T	44
			BAS40-05T	45
Repetitive peak reverse voltage	$V_R$	V		40
Forward current, per leg	$I_F$	mA		200
Non-repetitive surge peak forward current @ t=8.3ms half-sine wave	$I_{FSM}$	A		0.6
Non-repetitive surge peak forward current @ t=1ms square wave				1
Power dissipation	$P_D$	mW		150
Junction temperature	$T_J$	$^\circ\text{C}$		-55 to +125
Storage temperature	$T_{STG}$	$^\circ\text{C}$		-55 to +125



## BAS40T THRU BAS40-05T

### ■ 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> =10uA	40		
Forward voltage	V <sub>F</sub>	V	I <sub>F</sub> =1mA			0.38
			I <sub>F</sub> =40mA			1.0
Reverse leakage current	I <sub>R</sub>	uA	V <sub>R</sub> =30V			0.2
Junction capacitance	C <sub>j</sub>	pF	f=1.0MHz, V <sub>R</sub> =0V			5
Reverse recovery time	T <sub>rr</sub>	ns	I <sub>F</sub> =I <sub>R</sub> =10mA 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	667
Thermal resistance, junction-to-case	R <sub>θJ-C</sub> <sup>(1)</sup>	°C/W	534

Note:

(1) Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 25.4mm\*25.4mm copper pad areas



# BAS40T THRU BAS40-05T

## ■ Characteristics

Fig 1:  $P_D$ - $T_a$  Curve

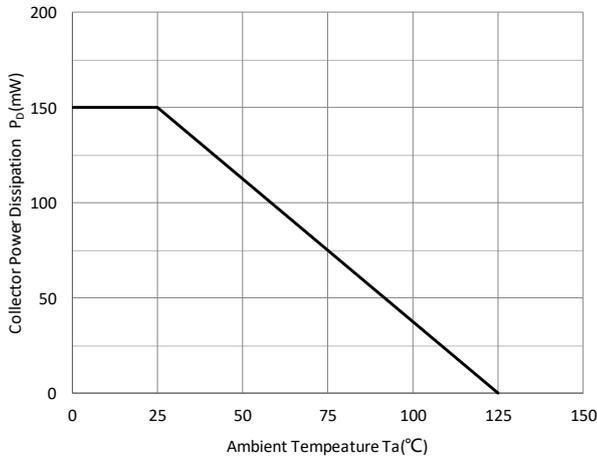


Fig 2: Capacitance Capability

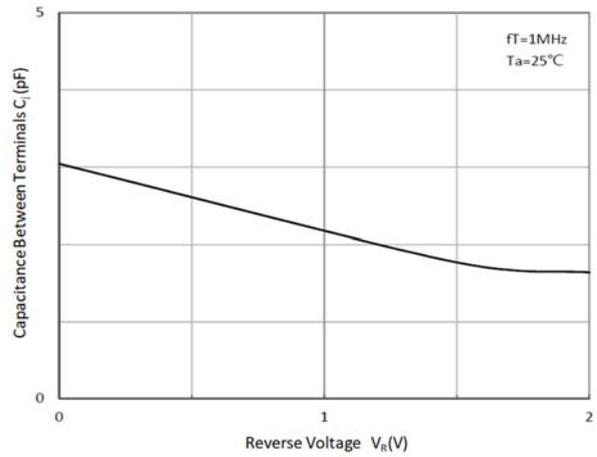


Fig 3: Typical Forward Characteristics

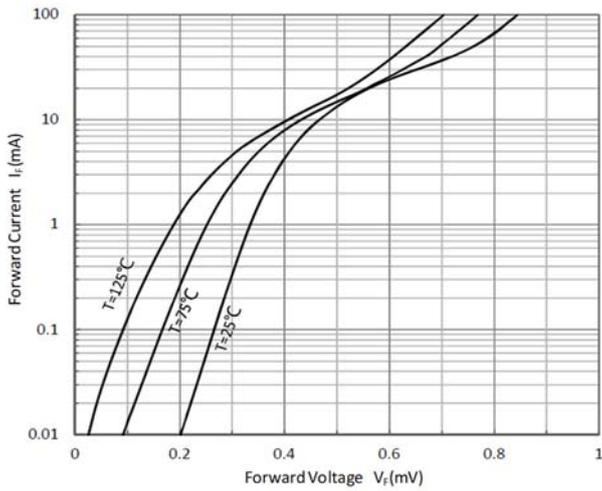
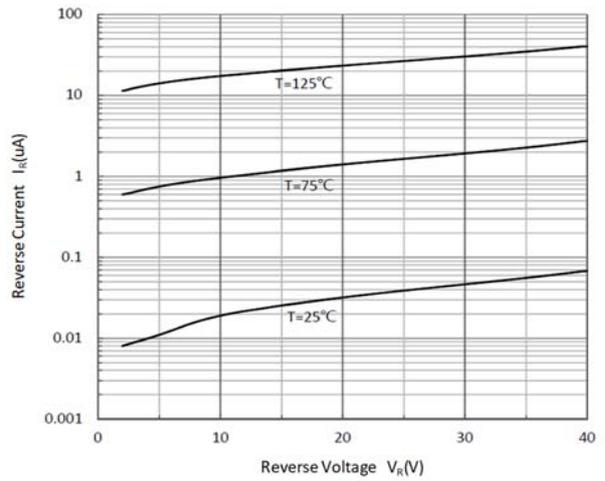


Fig 4: Typical Reverse Characteristics



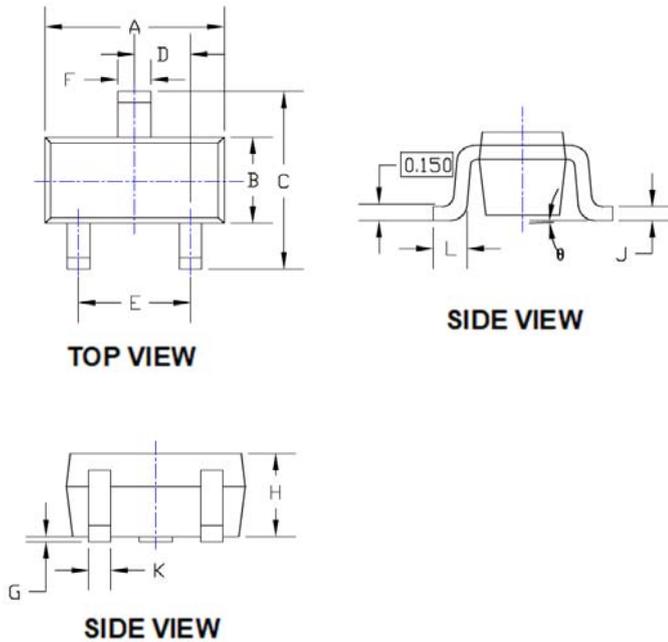


# BAS40T THRU BAS40-05T

## Ordering Information

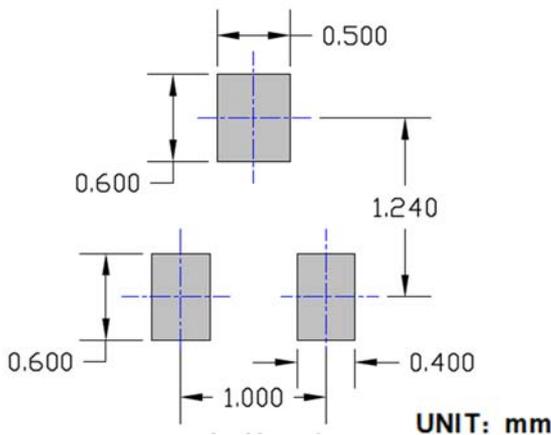
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BAS40T THRU BAS40-05T	F2	Approximate 0.0027	3000	30000	120000	7" reel

## Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.059	0.067	1.500	1.700
B	0.030	0.033	0.750	0.850
C	0.057	0.069	1.450	1.750
D	0.020TYP		0.500TYP	
E	0.035	0.043	0.900	1.100
F	0.010	0.018	0.250	0.450
G	0.000	0.004	0.000	0.100
H	0.024	0.031	0.600	0.800
J	0.004	0.008	0.100	0.200
K	0.006	0.014	0.150	0.350
L	0.010	0.018	0.260	0.460
$\theta$	0°	8°	0°	8°

## Suggested Pad Layout



### Note:

- All dimensions are in millimeters (mm) unless otherwise specified.  
[所有尺寸均以毫米为单位, 除非另有说明]
- General tolerances:  $\pm 0.10\text{mm}$  unless otherwise specified.  
[通用公差为  $\pm 0.10\text{mm}$ , 除非另有说明]
- Dimensions and tolerances per ASME Y14.5M-2018.  
[尺寸和公差遵循 ASME Y14.5M-2018 标准]
- All dimensions shown are exclusive of burrs and gate residues. Burrs and gate vestiges shall not exceed 0.15 mm in maximum.  
[所有尺寸均不包括毛刺和浇口残留。毛刺与浇口残留的尺寸最大不得超过 0.15mm]
- Dimension b does not include dambar protrusion of max 0.100 mm per side.  
[尺寸b不包括单边最大0.100 MM的中筋凸出部分]
- Dimensions A and B are the overall extreme outer dimensions of the mold compound. These dimensions exclude mold flash, lead flash, protrusions and burrs but include the maximum allowable mold mismatch.  
[A和B是塑封体的外部极限尺寸, 不包括包封溢料、内引线溢料、凸出部分以及胶体毛刺, 但是包含了包封错位的最大尺寸]
- Formed leads shall be planar with respect to one another within a maximum of 0.076 mm relative to the seating plane.  
[成型的管脚应为同一平面, 共面性最大为0.1mm]



## BAS40T THRU BAS40-05T

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