

Small Signal Schottky diode

BAT54S2

Description

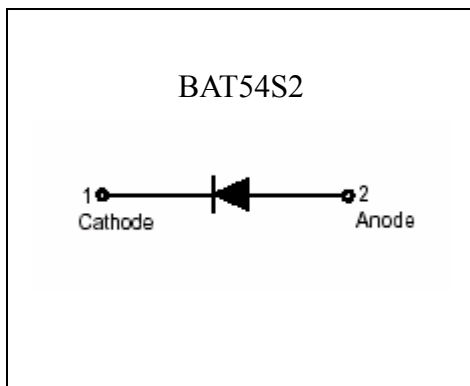
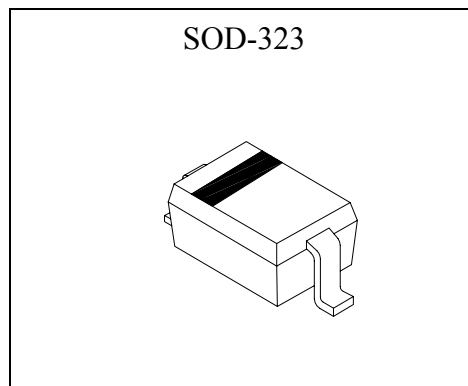
Planar silicon Schottky barrier diode encapsulated in a SOD-323 very small plastic SMD package.

Features

- Guard ring protected
- Low forward voltage drop
- Very small plastic SMD package

Applications

- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Blocking diodes

Symbol**Outline**



Absolute Maximum Ratings

Symbol	Parameter	Conditions	Min	Max	Unit
V _R	continuous reverse voltage		-	30	V
I _F	continuous forward current		-	200	mA
I _{FRM}	repetitive peak forward current	tp≤1s, δ≤0.5	-	300	mA
I _{FSM}	non-repetitive peak forward current	tp<10ms	-	600	mA
P _{tot}	total power dissipation	T _{amb} ≤25°C	-	200	mW
T _{stg}	storage temperature		-65	+150	°C
T _j	junction temperature		-	125	°C
T _{amb}	operating ambient temperature		-65	+125	°C

Characteristics (Ta=25°C, unless otherwise specified)

Parameter	Symbol	Condition	Min.	Max.	Unit
Reverse Breakdown Voltage	V _{BR}	I _R =100μA	30	-	V
Forward Voltage (Note 1)	V _F (1)	I _F =0.1mA	-	240	mV
	V _F (2)	I _F =1mA	-	320	mV
	V _F (3)	I _F =10mA	-	400	mV
	V _F (4)	I _F =30mA	-	500	mV
	V _F (5)	I _F =100mA	-	800	mV
Reverse Leakage Current (Note 2)	I _R	V _R =25V	-	2	μA
Diode Capacitance	C _D	V _R =1V, f=1MHz	-	10	pF
Reverse Recovery Time	t _{rr}	when switched from I _F = 10mA to I _R =10mA; R _L =100Ω; measured at I _R =1mA	-	5	ns

Notes: 1.pulse test, tp=380μs, duty cycle<2%.
2.pulse test, tp=300μs, duty cycle<2%.

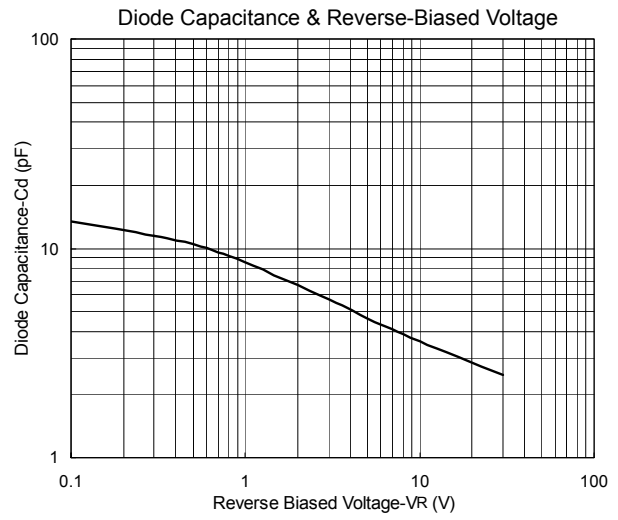
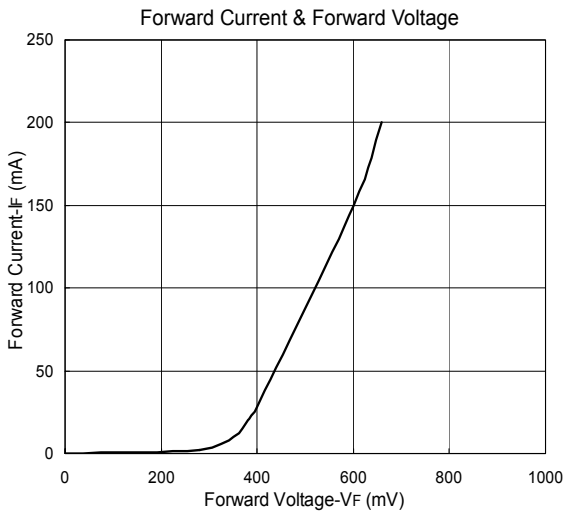
Thermal Characteristics

Symbol	Parameter	Conditions	Value	Unit
R _{th j-a}	thermal resistance from junction to ambient	note 1	635	K/W

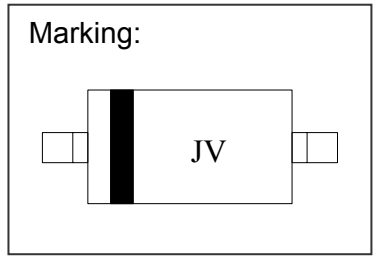
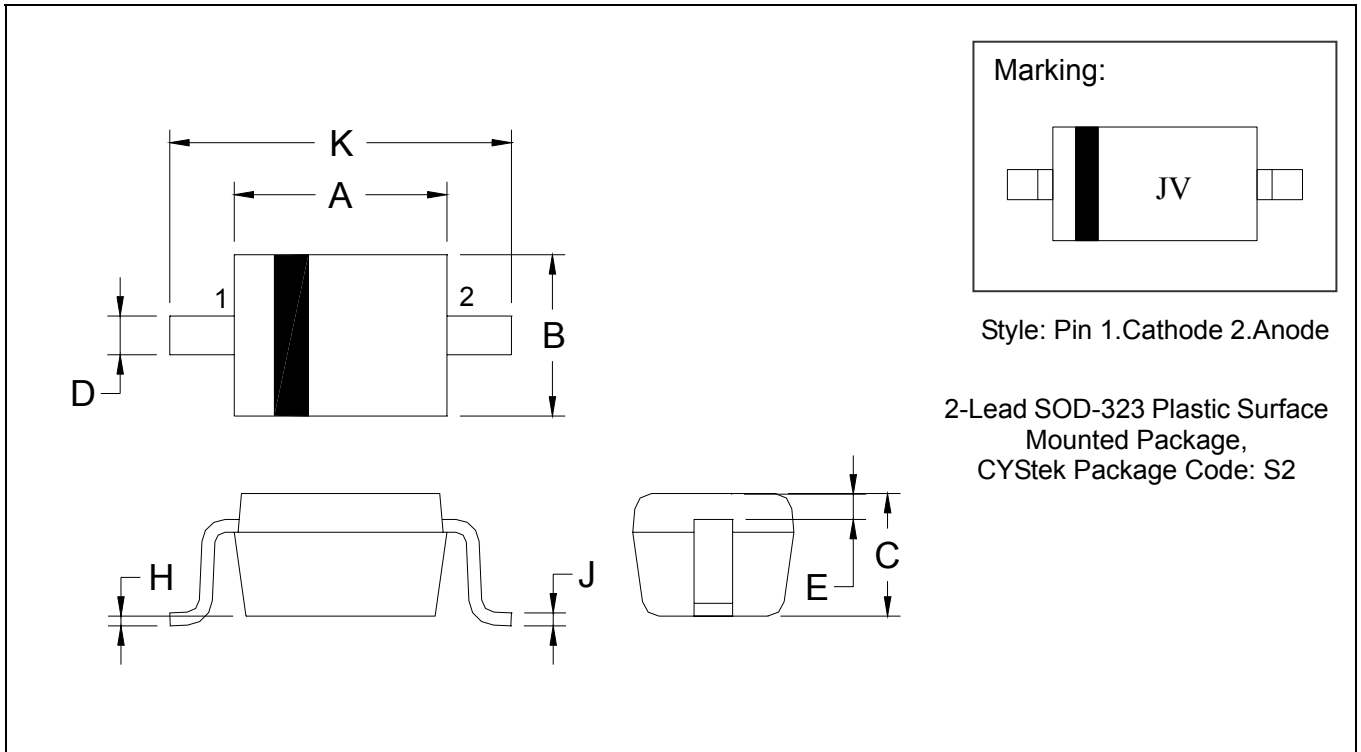
Note 1 : Device mounted on a FR-4 PCB



Characteristic Curves



SOD-323 Dimension



Style: Pin 1.Cathode 2.Anode

2-Lead SOD-323 Plastic Surface Mounted Package,
 CYStek Package Code: S2

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.0630	0.0709	1.60	1.80	E	0.0060 REF		0.15 REF	
B	0.0453	0.0531	1.15	1.35	H	0.0000	0.0040	0.00	0.10
C	0.0315	0.0394	0.80	1.00	J	0.0035	0.0070	0.089	0.177
D	0.0098	0.0157	0.25	0.40	K	0.0906	0.1063	2.30	2.70

- Notes: 1.Controlling dimension : millimeters.
 2.Lead thickness specified per L/F drawing with solder plating.
 3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

Material:

- Lead: 42 Alloy ; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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