High voltage switching diode

BAS21N3

Description

The BAS21N3 is a general purpose diode fabricated in planar technology and encapsulated in a small SOT-23 plastic SMD package.

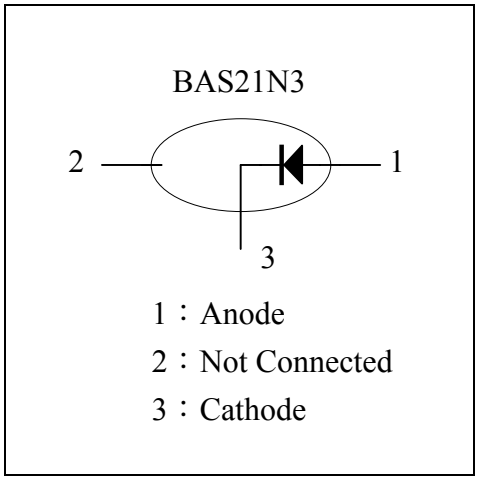
Features

- Fast switching speed : max. 50ns
- Small plastic SMD package
- General application.
- Continuous reverse voltage : max. 200V
- Repetitive peak reverse voltage : max. 250V
- Repetitive peak forward current : max. 625mA

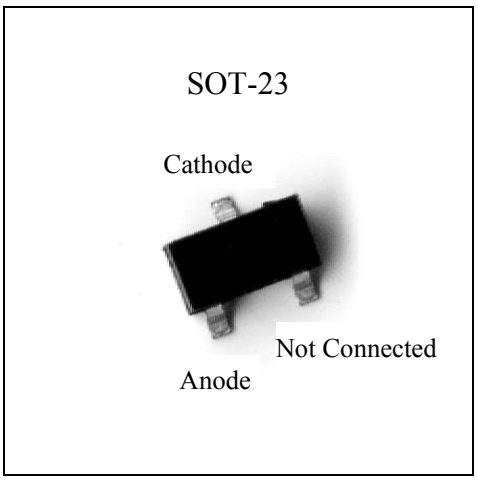
Applications

- General purpose switching in e.g. surface mounted circuits.

Symbol



Outline



Absolute Maximum Ratings @T_A=25℃

Parameter Sym	bol	Min	Max	Unit
Repetitive peak reverse voltage	V_{RRM}	-	250	V
Continuous reverse voltage	V_R	-	200	V
Continuous forward current	I_F	-	200	mA
Repetitive peak forward current	I_{FRM}		625	mA
Non-repetitive peak forward current @square wave, Tj=25℃ prior to surge t=1μs t=100μs t=10ms	I_{FSM}	- - -	9 3 1.7	A A A
Total power dissipation(Note 1) Ptot			250	mW
Junction Temperature	T_j	-	150	°C
Storage Temperature	T_{stg}	-65	+150	°C

Note 1: Device mounted on an FR-4 PCB.

Electrical Characteristics @ Tj=25℃ unless otherwise specified

Parameters Sym	bol	Conditions	Min	Typ.	Max	Unit
Forward voltage	V_F	I_F=100mA I_F=200mA	- -		1 1.25	V V
Reverse current	I_R	V_R=200V V_R=200V,Tj=150℃	- -		100 100	nA μA
Diode capacitance	Cd	V_R=0V, f=1MHz	-	-	5	pF
Reverse recovery time	trr	when switched from I_F=30mA to I_R=30mA,R_L=100Ω, measured at I_R=3mA	-	-	50	ns

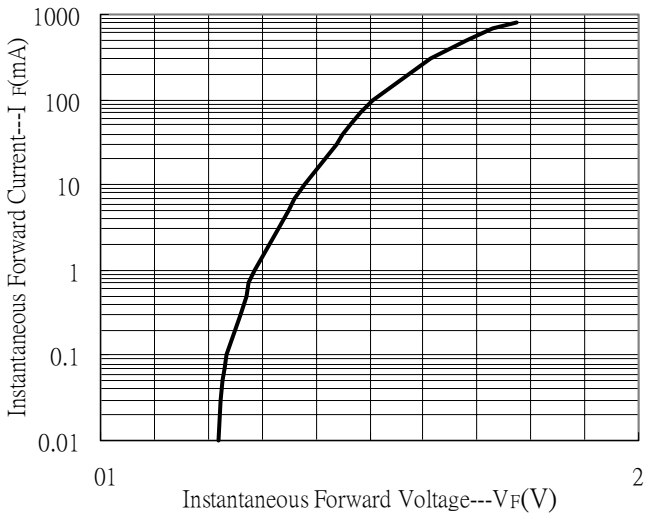
Thermal Characteristics

Symbol Param	eter	Conditions	Value	Unit
Rth,j-tp	thermal resistance from junction to tie-point		330	℃/W
Rth, j-a	thermal resistance from junction to ambient	Note 1	500	℃/W

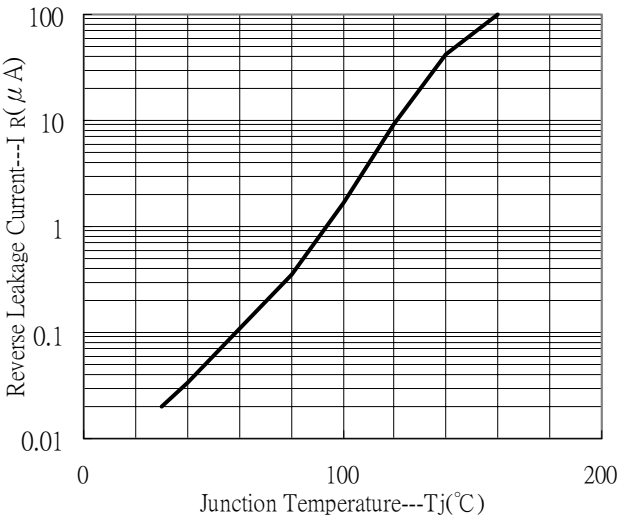
Note 1: Device mounted on an FR-4 PCB.

Characteristic Curves

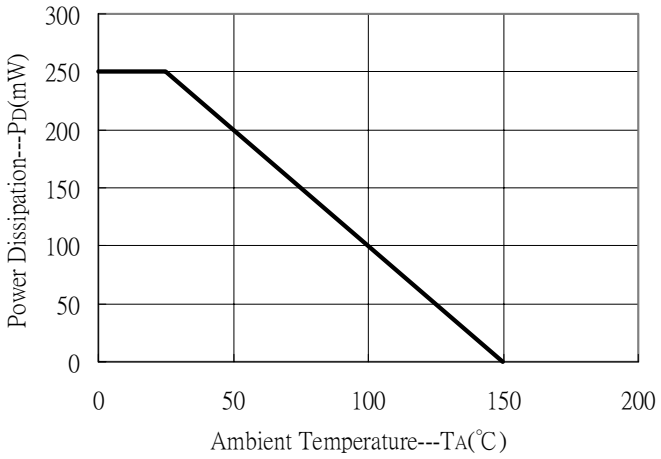
Forward Characteristics



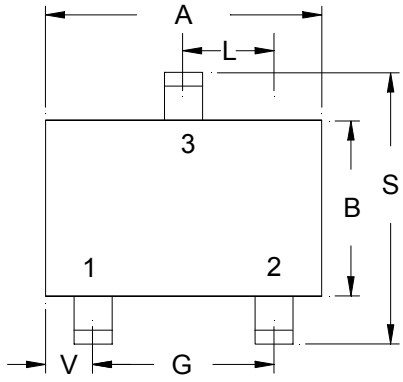
Reverse Leakage Current vs Junction Temperature

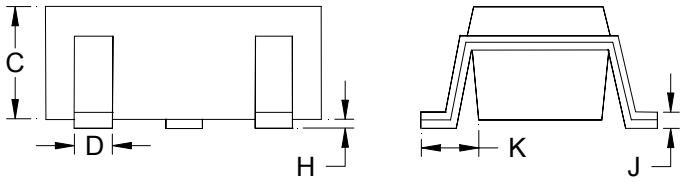


Power Derating Curve

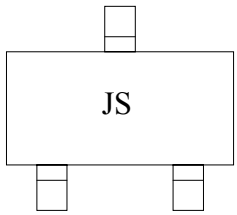


SOT-23 Dimension





Marking:



3-Lead SOT-23 Plastic
Surface Mounted Package
CYStek Package Code: N3

Style:Pin.1. Anode 2. Not Connected
3.Cathode

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.102	0.1204	2.80	3.04	J	0.0034	0.0070	0.085	0.177
B	0.0472	0.0630	1.20	1.60	K	0.0128	0.0266	0.32	0.67
C	0.0335	0.0512	0.89	1.30	L	0.0335	0.0453	0.85	1.15
D	0.01	0.0197	0.30	0.50	S	0.0830	0.1083	2.10	2.75
G	0.0669	0.0910	1.70	2.30	V	0.0098	0.0256	0.25	0.65
H	0.0005	0.0040	0.013	0.10					

Notes: 1.Controlling dimension: millimeters.
2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
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