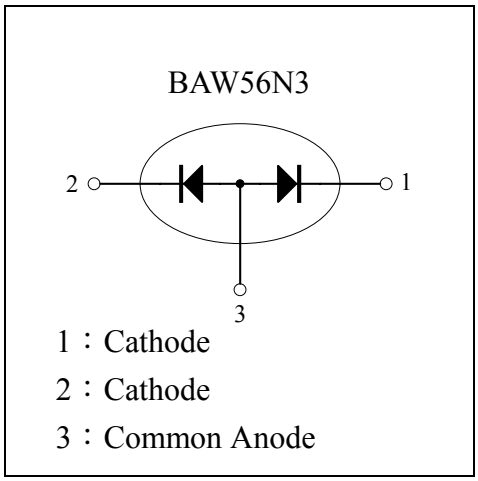
High –speed double diode

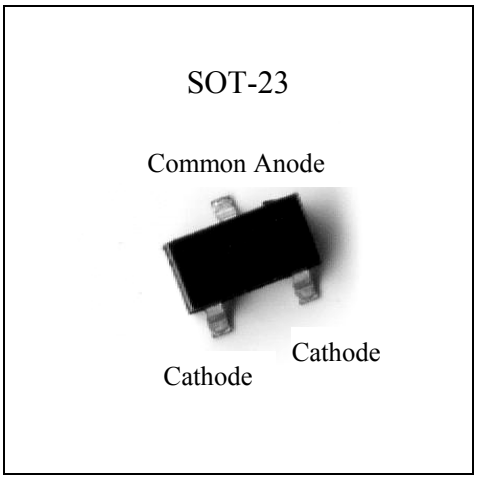
BAW56N3

Description

The BAW56N3 consists of two high-speed switching diodes with common anodes, fabricated in planar technology, and encapsulated in a small SOT-23 plastic SMD package.

Equivalent Circuit





Features

- Small plastic SMD package
- High switching speed: max. 4ns
- Continuous reverse voltage: max. 75V
- Repetitive peak reverse voltage: max. 85V
- Repetitive peak forward current: max. 450mA.

Applications

- High-speed switching in thick and thin-film circuits.

Absolute Maximum Ratings @T_A=25℃

Parameters	Symbol	Min	Max	Unit
Repetitive peak reverse voltage	V_{RRM}	-	85	V
Continuous reverse voltage	V_R	-	75	V
Continuous forward current(single diode loaded)	I_F	-	215	mA
Continuous forward current(double diode loaded)		-	125	
Repetitive peak forward current	I_{FRM}		450	mA
Non-repetitive peak forward current @square wave, Tj=125℃ prior to surge t=1μs t=1ms t=1s	I_{FSM}	- - -	4 1 0.5	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	Symbol	Conditions	Min	Typ.	Max	Unit
Forward voltage	V_F	I_F=1mA I_F=10mA I_F=50mA I_F=150mA	-	-	715 855 1 1.25	mV mV V V
Reverse current	I_R	V_R=25V V_R=75V V_R=25V,Tj=150℃ V_R=75V,Tj=150℃	-	-	30 1 30 50	nA μA μA μA
Diode capacitance	Cd	V_R=0V, f=1MHz	-	-	2	pF
Reverse recovery time	trr	when switched from I_F=10mA to I_R=10mA,R_L=100Ω, measured at I_R=1mA	-	-	4	ns
Forward recovery voltage	Vfr	when switched from I_F=10mA tr=20ns	-	-	1.75	V

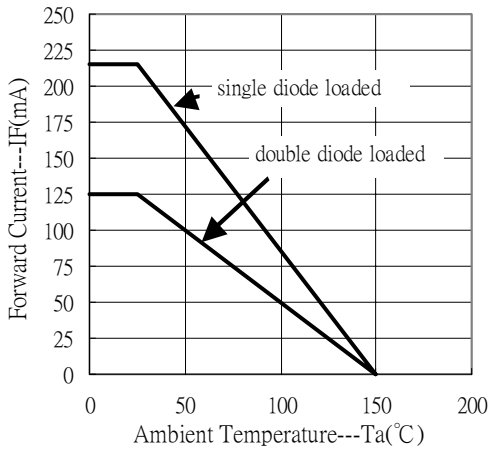
Thermal Characteristics

Symbol	Parameter	Conditions	Value	Unit
Rth,j-tp	thermal resistance from junction to tie-point		360	℃/W
Rth, j-a	thermal resistance from junction to ambient	Note 1	500	℃/W

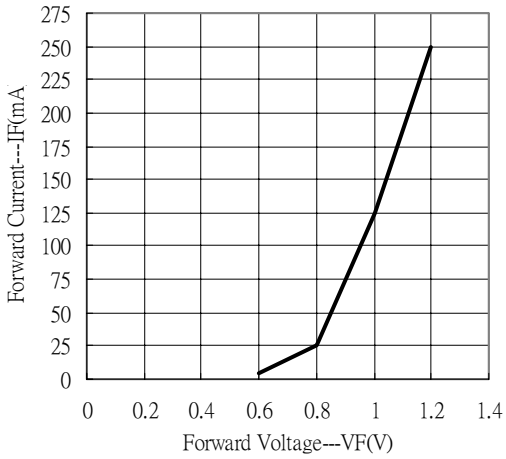
Note 1: Device mounted on an FR-4 PCB.

Characteristic Curves

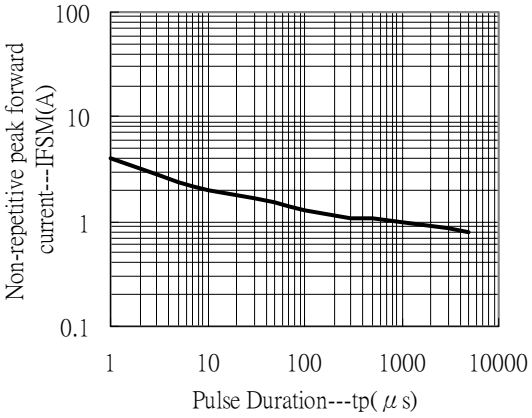
Forward Current vs Ambient Temperature



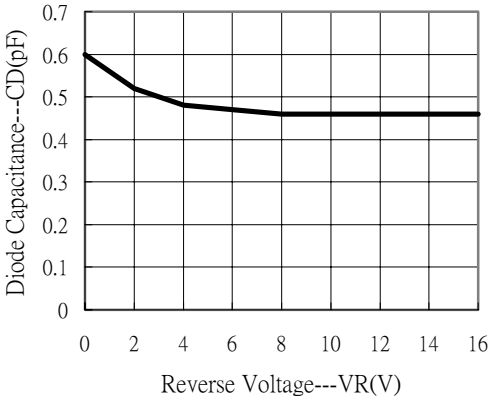
Forward Current vs Forward Voltage



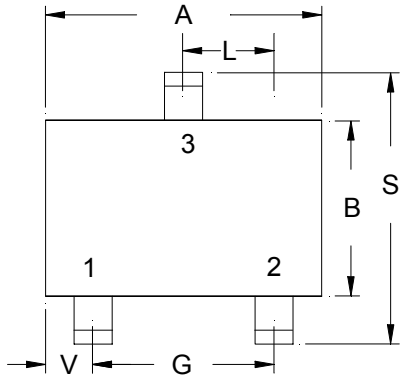
Non-repetitive peak forward current vs pulse duration

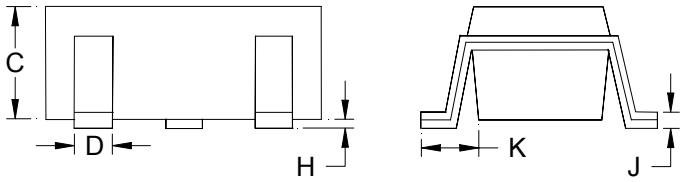


Diode Capacitance vs Reverse Voltage

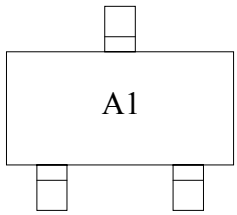


SOT-23 Dimension





Marking:



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

Style: Pin 1.Cathode 2.Cathode
3.Common Anode

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1102	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	0.0118	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

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