Switching Diode

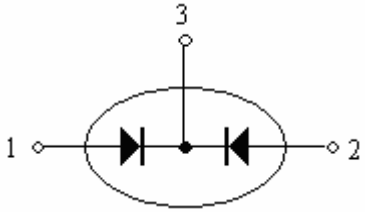
DAN202C3

Features

- Fast switching speed.
- Ultra small surface mount package
- High conductance
- Pb-free package

Equivalent Circuit

DAN202C3

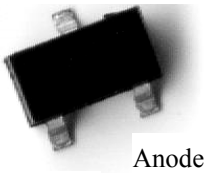


1：Anode
2：Anode
3：Common cathode

Outline

SOT-523

Common cathode



Anode

Anode

Applications

- For general purpose switching applications.

Ordering Information

Device	Package	Shipping	Marking
DAN202C3	SOT-523 (Pb-free)	3000 pcs / Tape & Reel	N

Absolute Maximum Ratings @T_A=25℃

Parameters	Symbol	Min	Max	Unit
Repetitive peak reverse voltage	V_{RRM}	-	110	V
Continuous reverse voltage	V_R	-	100	V
Average Rectified Forward Current (single)	I_O	-	150	mA
Repetitive peak forward current	I_{FM}		300	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
Power Dissipation(Note 1)	P_D		150	mW
Operating Junction Temperature Range	T_j	-55	+150	°C
Storage Temperature Range	T_{stg}	-65	+150	°C

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

Electrical Characteristics @ Ta=25℃ unless otherwise specified

Parameters	Symbol	Conditions	Min	Typ.	Max	Unit
Reverse Breakdown Voltage	$V_{R(BR)}$	I_R=100μA	100	-	-	V
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=100V	-	-	30 2.5	nA 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

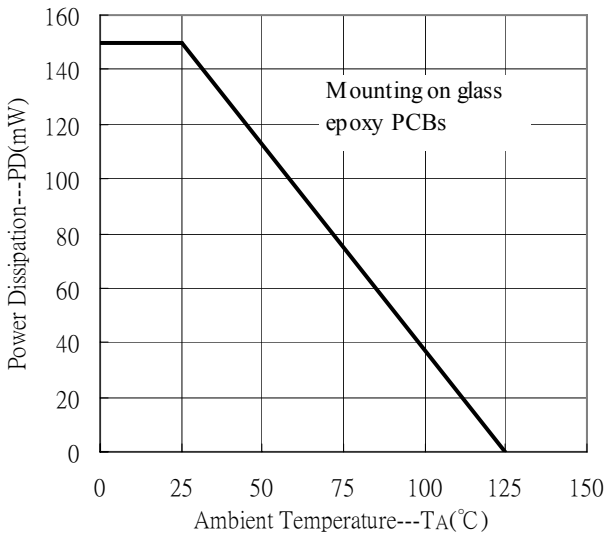
Thermal Characteristics

Symbol	Parameter	Conditions	Value	Unit
Rth, j-a	thermal resistance from junction to ambient	Note 1	833	℃/W

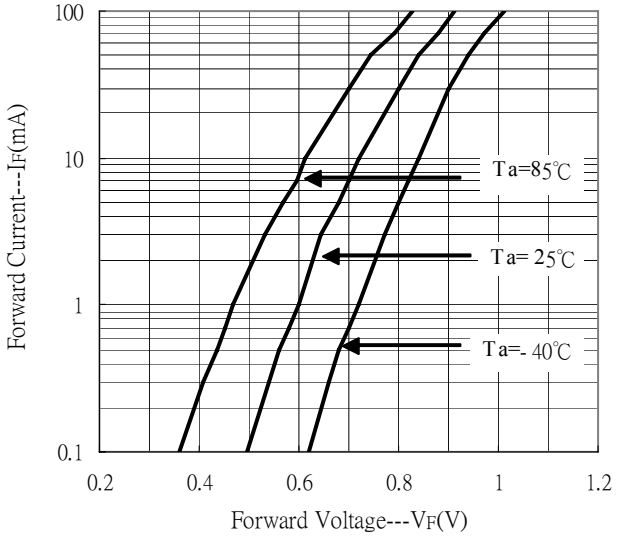
Note 1: Device mounted on an FR-4 PCB.

Typical Characteristics

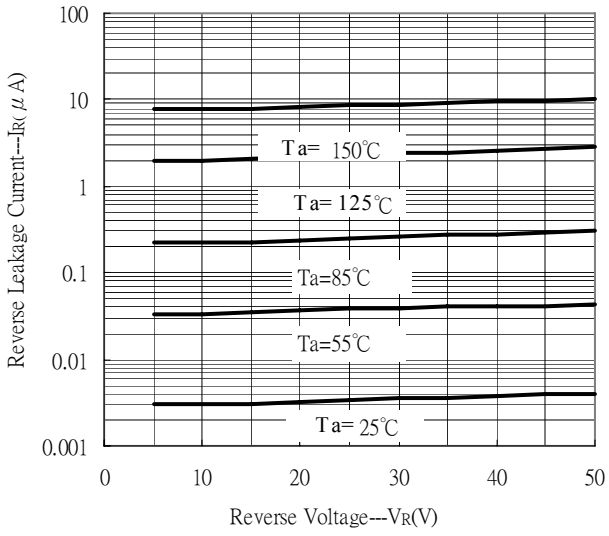
Power Derating Curve



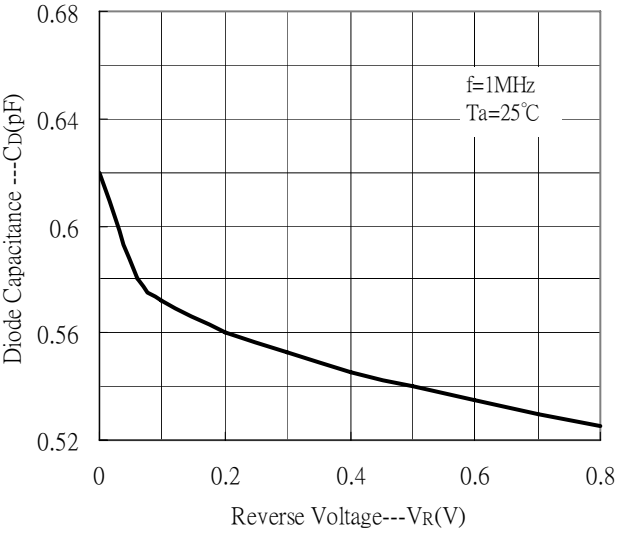
Forward Current vs Forward Voltage



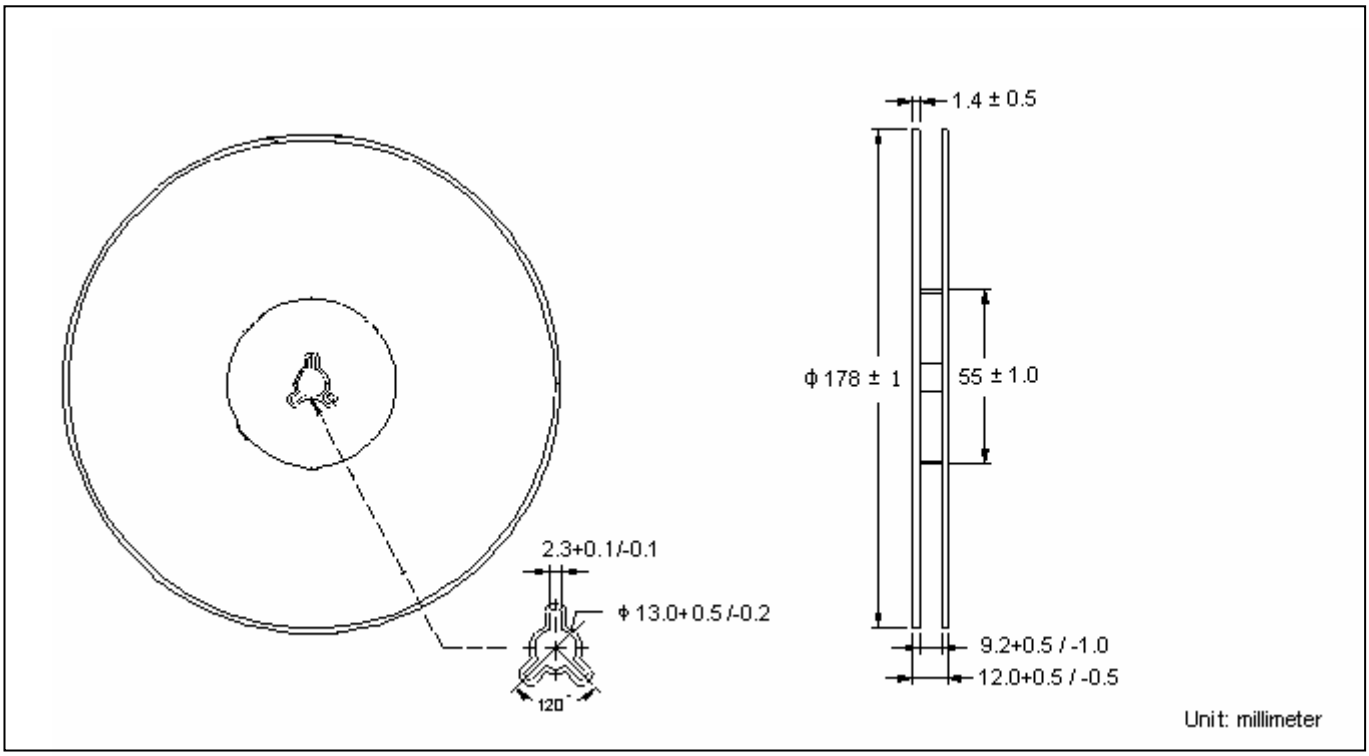
Reverse Leakage Current vs Reverse Voltage



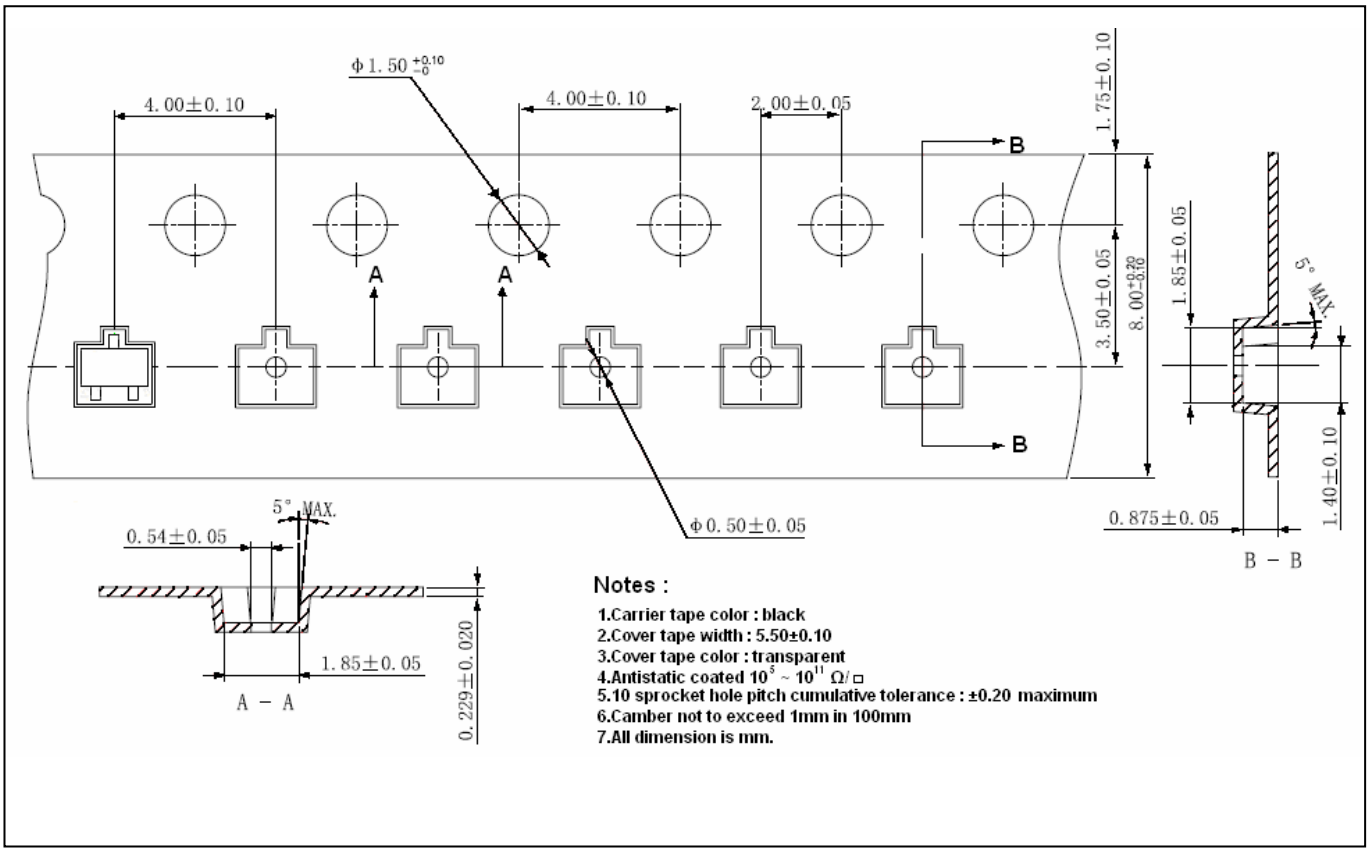
Capacitance vs Reverse Voltage



Reel Dimension



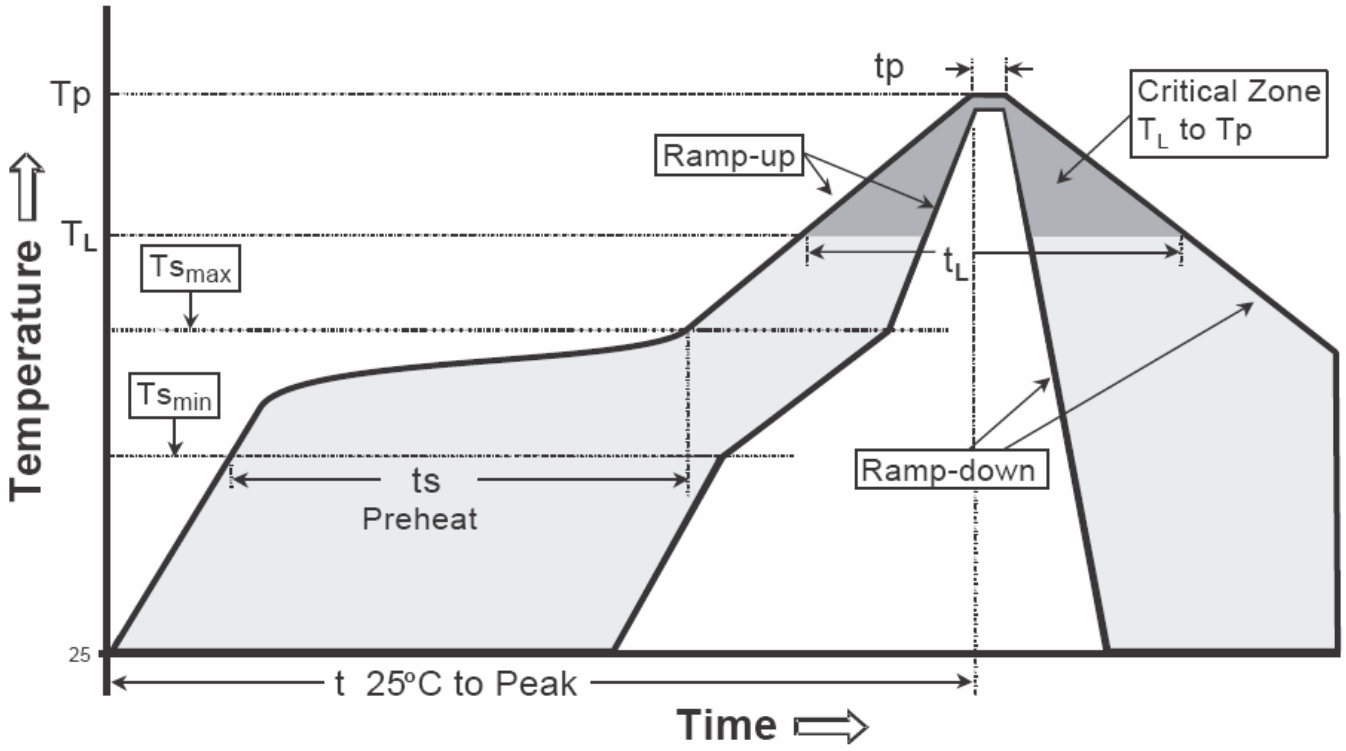
Carrier Tape Dimension



Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

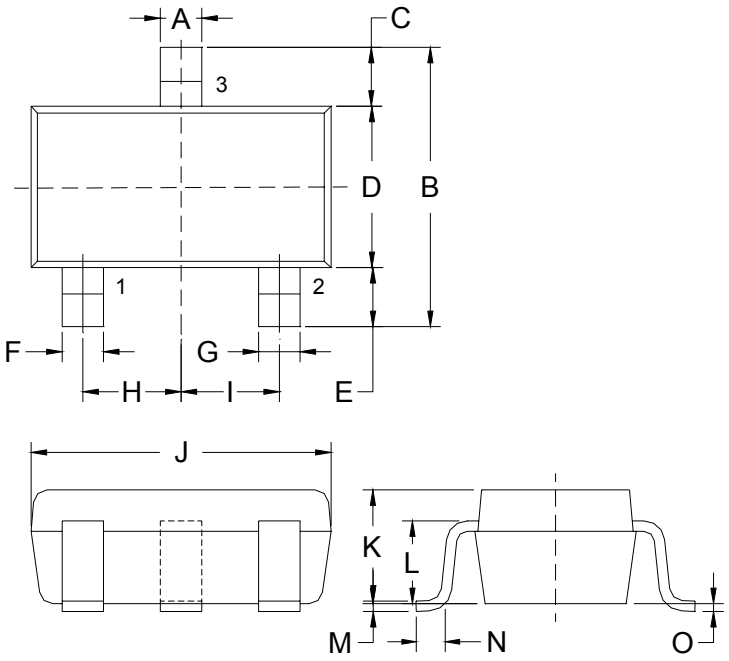
Recommended temperature profile for IR reflow



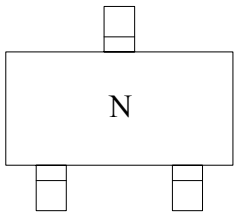
Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat −Temperature Min(Ts min) −Temperature Max(Ts max) −Time(ts min to ts max)	 100°C 150°C 60-120 seconds	 150°C 200°C 60-180 seconds
Time maintained above: −Temperature (TL) − Time (tL)	 183°C 60-150 seconds	 217°C 60-150 seconds
Peak Temperature(TP)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

SOT-523 Dimension (C Forming)



Marking:



3-Lead SOT-523 Plastic
Surface Mounted Package
CYStek Package Code: C3

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

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.0079	0.0157	0.20	0.40	I	*0.0197	-	*0.50	-
B	0.0591	0.0669	1.50	1.70	J	0.0610	0.0650	1.55	1.65
C	0.0118	0.0197	0.30	0.50	K	0.0276	0.0315	0.70	0.80
D	0.0295	0.0335	0.75	0.85	L	0.0224	0.0248	0.57	0.63
E	0.0118	0.0197	0.30	0.50	M	0.0020	0.0059	0.05	0.15
F	0.0039	0.0118	0.10	0.30	N	0.0039	0.0118	0.10	0.30
G	0.0039	0.0118	0.10	0.30	O	0	0.0031	0	0.08
H	*0.0197	-	*0.50	-					

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: Pure tin plated.
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0