DAN217S3

HIGH-SPEED SWITCHING DIODE

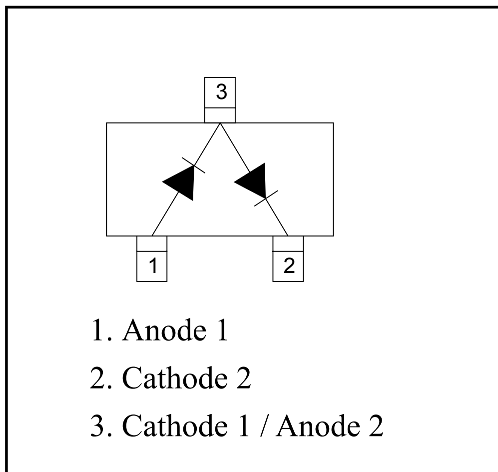
Description

The DAN217S3 consists of two diodes in a plastic surface mount package. The diodes are connected in series and the unit is designed for high-speed switching application in hybrid thick and thin-film circuits.

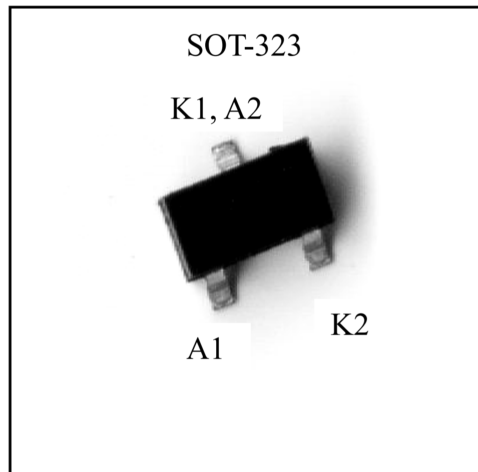
Features

- Small SMD Package (SOT-323)
- Ultra-high Speed
- Low Forward Voltage
- Fast Reverse Recovery Time

Equivalent Circuit

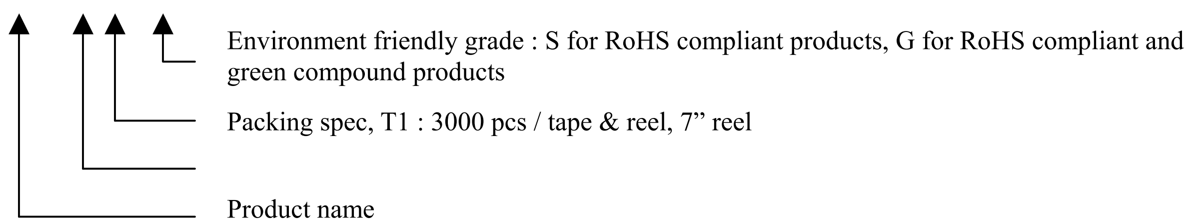


Outline



Ordering Information

Device	Package	Shipping
DAN217S3-0-T1-G	SOT-323 (Pb-free lead plating and halogen-free package)	3000 pcs / Tape & Reel



Absolute Maximum Ratings @TA=25℃, each diode, unless otherwise noted

Parameters	Symbol	Min	Max	Unit
Repetitive peak reverse voltage	V_{RRM}	-	110	V
Continuous reverse voltage	V_R	-	100	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
Average rectified forward current (Note 1) (averaged over any 20ms period)	$I_{F(AV)}$	-	715	mA
Non-repetitive peak forward current @square wave, Tj=125℃ prior to surge t=1μs t=1ms t=1s	I_{FSM}	- - -	2 1 0.5	A A A
Total power dissipation(Note 1)	Ptot		200	mW
Operating Junction Temperature Range	T_j	-65	+150	°C
Storage Temperature Range	T_{stg}	-65	+150	°C

Note 1: Device mounted on an FR-5 PCB with area measuring 1.0 × 0.75 × 0.062 in.

Characteristics (Ta=25°C)

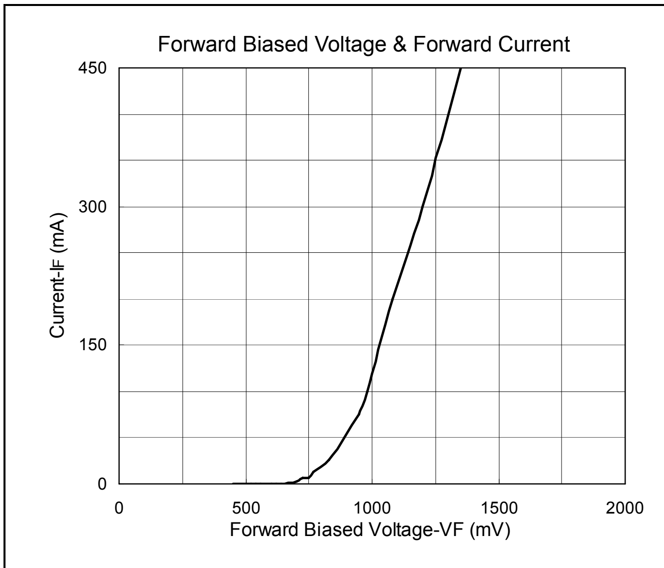
Characteristic	Symbol	Condition	Min	Max	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	I_R=100μA	100	-	V
Forward Voltage	V_F(1)	I_F=1mA	-	715	mV
	V_F(2)	I_F=10mA	-	855	mV
	V_F(3)	I_F=50mA	-	1000	mV
	V_F(4)	I_F=150mA	-	1250	mV
Reverse Current	I_R	V_R=100	-	2.5	μA
Total Capacitance	C_T	V_R=0, f=1MHz	-	1.5	pF
Reverse Recovery Time	t_{rr}	I_F=I_R=10mA, R_L=100Ω measured at I_R=1mA	-	6	ns

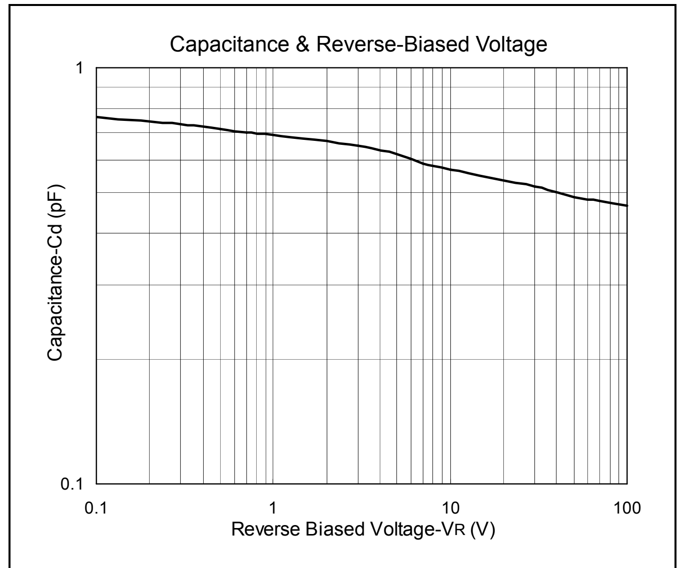
Thermal Characteristics

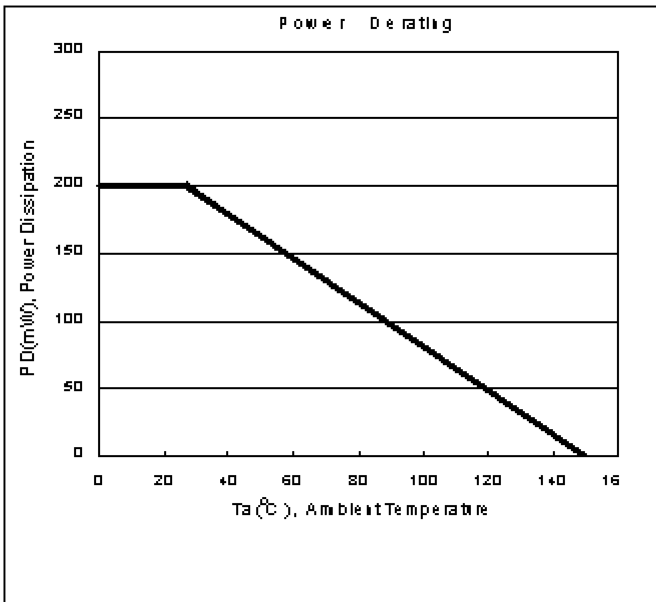
Symbol	Parameter	Conditions	Value	Unit
Rth, j-a	thermal resistance from junction to ambient	Note 1	625	℃/W

Note 1: Device mounted on an FR-5 PCB with area measuring 1.0 × 0.75 × 0.062 in.

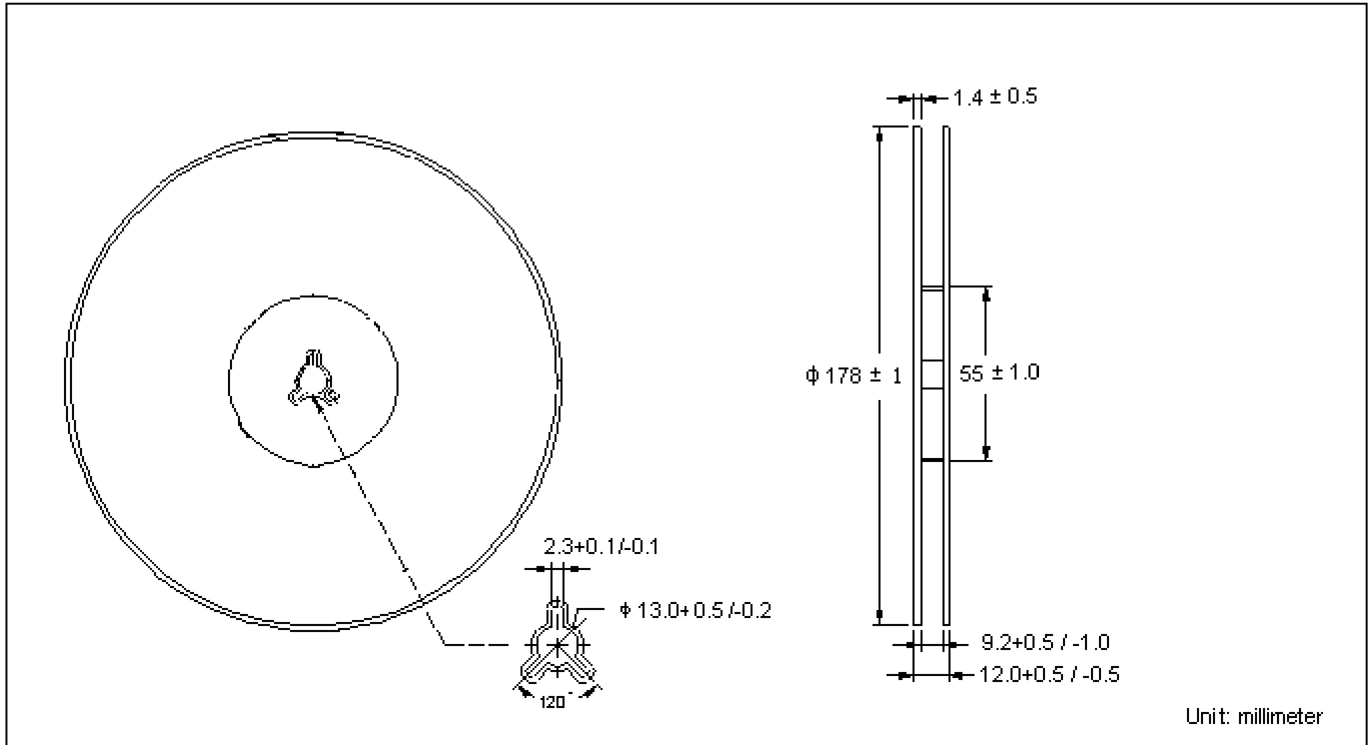
Typical **Characteristics**



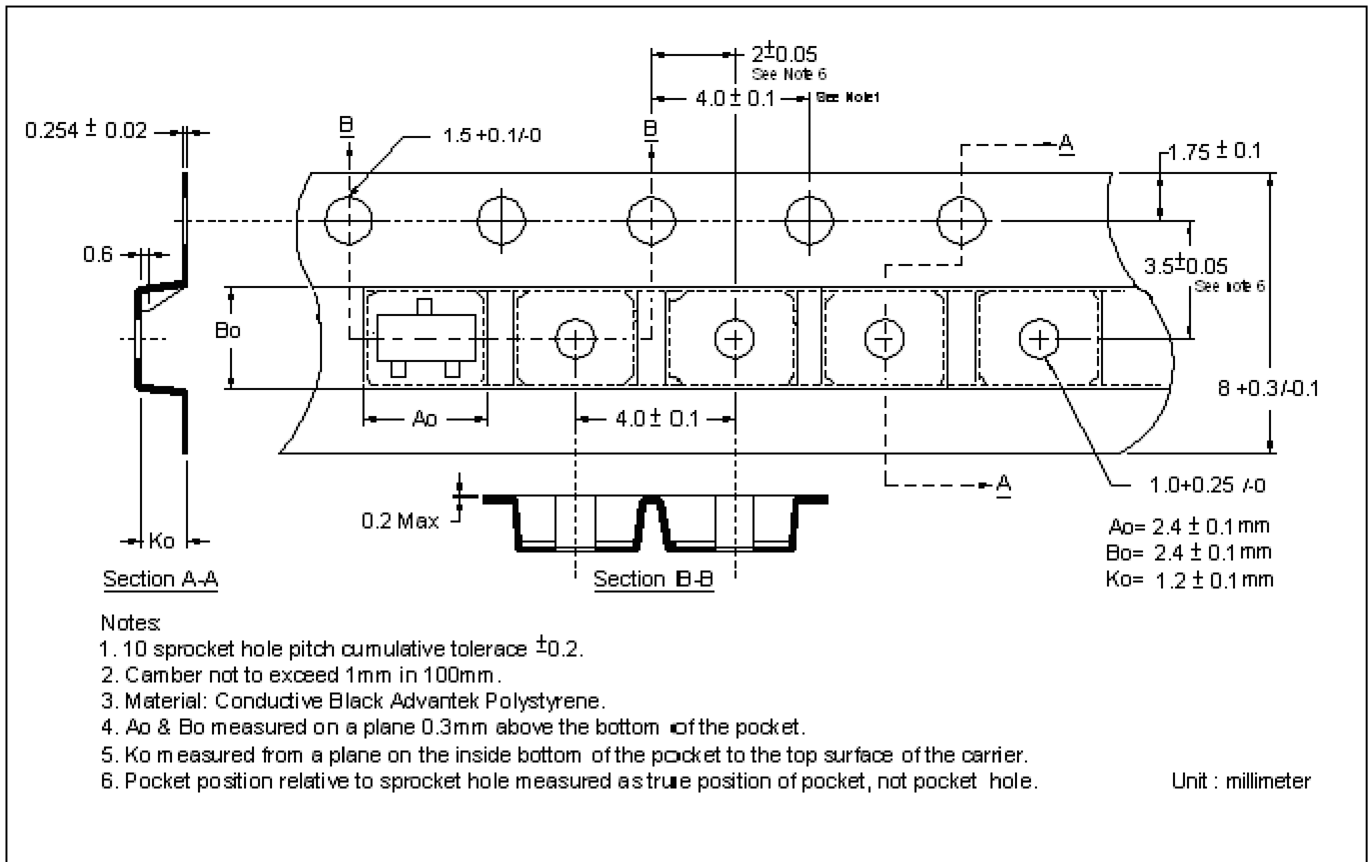




Reel Dimension



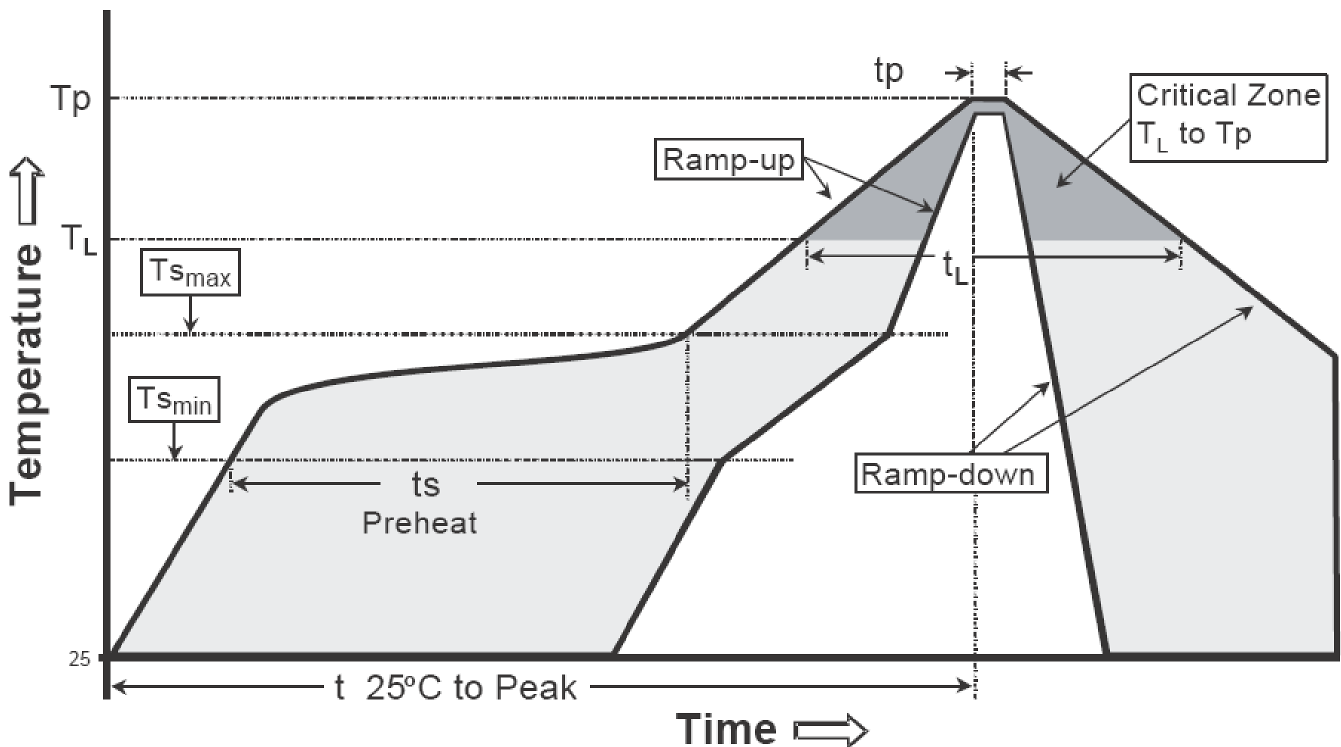
Carrier Tape Dimension



Recommended wave soldering condition

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

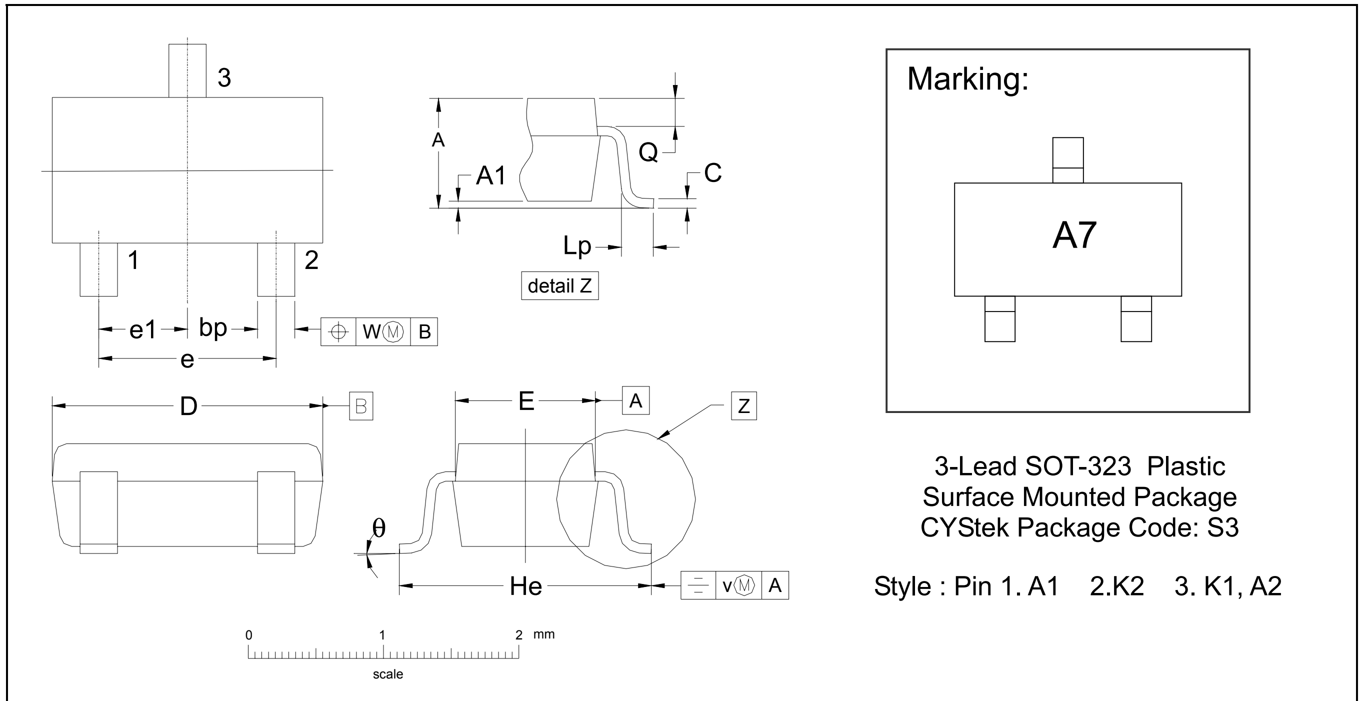
Recommended temperature profile for IR reflow



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-323 Dimension



*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.0315	0.0433	0.80	1.10	e1	0.0256*		0.65*	
A1	0.0000	0.0039	0.00	0.10	He	0.0846	0.0965	2.15	2.45
bp	0.0078	0.0157	0.20	0.40	Lp	0.0105	0.0181	0.26	0.46
C	0.0031	0.0059	0.08	0.15	Q	0.0051	0.0091	0.13	0.23
D	0.0709	0.0866	1.80	2.20	v	0.0079	-	0.2	-
E	0.0453	0.0531	1.15	1.35	w	0.0079	-	0.2	-
e	0.0472	0.0551	1.20	1.40	θ	0°	8°	0°	8°

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.

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