N032CT23-H

List

N032CT23-H

210W 2-Channel Normal Capacitance Uni-Directional TVS For ESD Protection 3.3V

Features

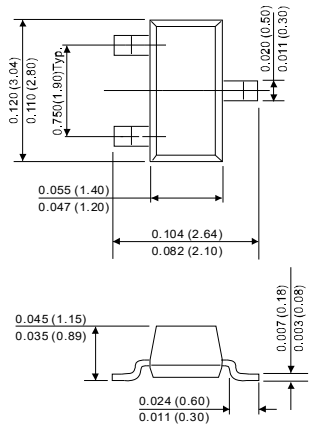
- 210 Watts peak pulse power (t_p=8/20μs).
- Low clamping voltage.
- Low leakage current.
- High temperature soldering guaranted:260°C/10 seconds.
- Complies with following standards:
  IEC 61000-4-2(ESD) ±15kV(Air), ±8kV (Contact).
- Lead-free parts meet RoHS requirements.
- Halogen-free (IEC61249-2-21).

Mechanical data

- Epoxy:UL94-V0 rated flame retardant.
- Case : Molded plastic, SOT-23.
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026.
- Weight : Approximated 8mg.

Package outline

SOT-23



Dimensions in inches and (millimeters)

Maximum ratings (At T_A=25°C unless otherwise noted)

Parameter	Symbols	Ratings	Units
Peak pulse power (8/20μs)	P_{PK}	210	W
ESD per IEC 61000-4-2 (Air)	V_{ESD}	±15	kV
ESD per IEC 61000-4-2 (Contact)		±8	
Forward voltage@100mA, 300μs square wave (Applies to uni-directional pins only)	V_F	1.5	V
Operating temperature	T_J	+150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

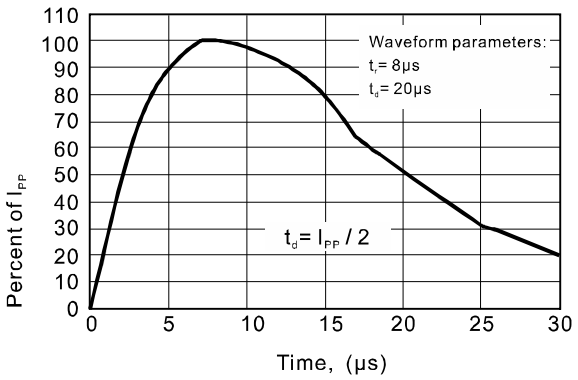
Electrical characteristics (At T_A=25°C unless otherwise noted)

Parameter	Condition	Symbol	Min	Typ	Max	Unit
Reverse stand-off voltage		V_{RWM}			3.3	V
Reverse breakdown voltage	I_T=1mA	V_{BR}	4.0			V
Reverse leakage current		I_R			40	μA
Clamping voltage	I_{PP}=1A	V_C			7	V
	I_{PP}=20A				10.5	
Junction capacitance		C_J			450	pF

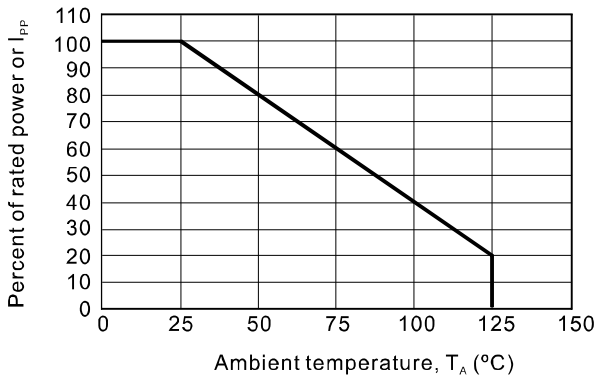
N032CT23-H

Rating and characteristic curves

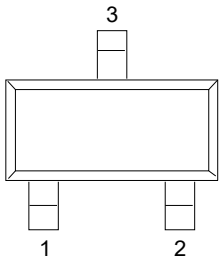
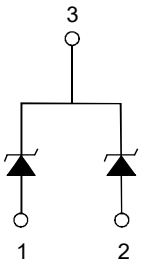
Pulse waveform



Power derating curve



Pinning information

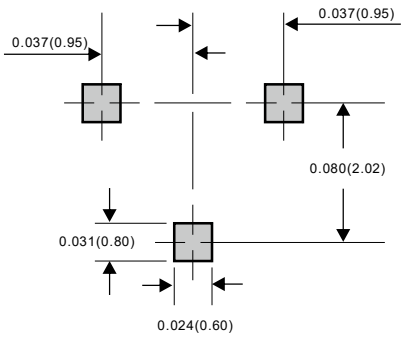
Pin	Simplified outline	Symbol
Pin 1 Anode Pin 2 Anode Pin 3 Cathode		

Marking

Type number	Marking code
N032CT23-H	DC03

Suggested solder pad layout

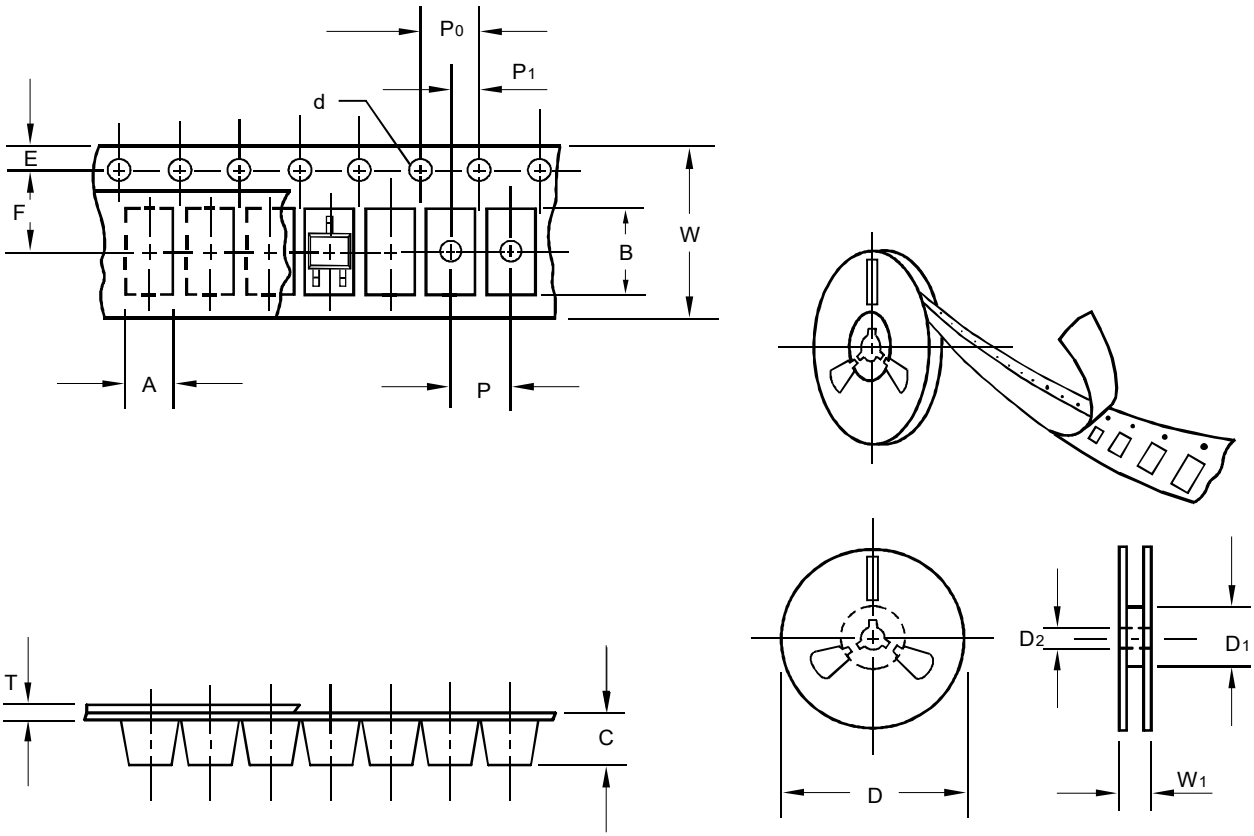
SOT-23



Note:
1. Dimensions in inches and (millimeters).
2. General tolerance: ± 0.05mm.
3. The pad layout is for reference purposes only.

N032CT23-H

Packing information



unit:mm

Item	Symbol	Tolerance	SOT-23
Carrier width	A	0.5	3.15
Carrier length	B	0.5	2.77
Carrier depth	C	0.5	1.22
Sprocket hole	d	0.5	1.50
13" Reel outside diameter	D	2.0	-
13" Reel inner diameter	D_1	min	-
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D_1	min	53.40
Feed hole diameter	D_2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P_0	0.1	4.00
Embossment center	P_1	0.1	2.00
Overall tape thickness	T	0.5	0.19
Tape width	W	0.5	8.00
Reel width	W_1	5.0	12.30

Note:Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

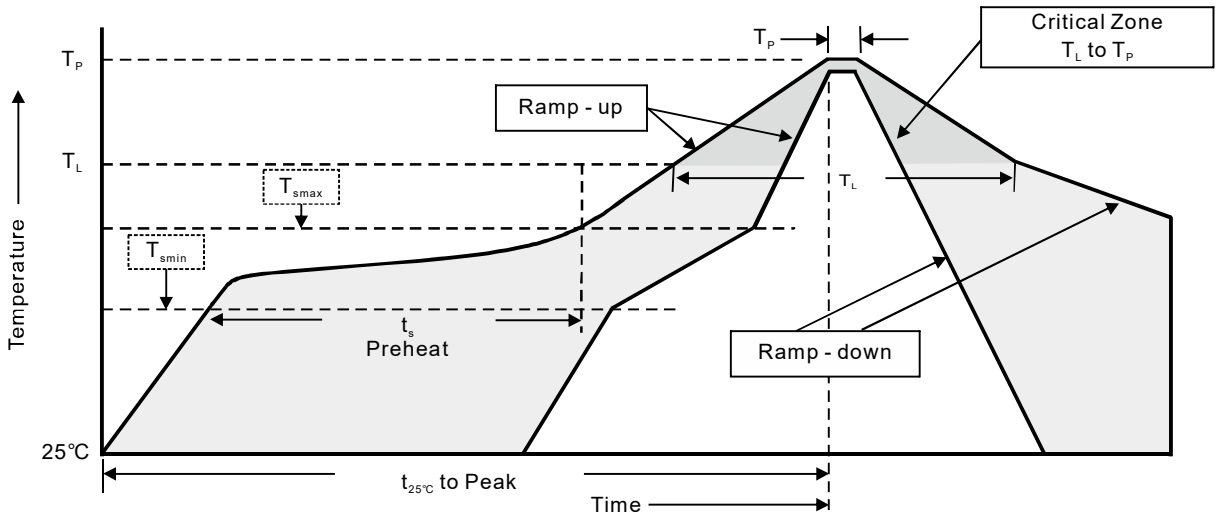
N032CT23-H

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	REEL DIA, (m/m)	CARTON (pcs)
SOT-23	7"	3,000	4.0	30,000	178	240,000

Suggested thermal profiles for soldering processes

1. Storage environment : Temperature = 5℃ ~ 40℃, Humidity = 55%, ±25%.
2. Reflow soldering of surface - Mount devices.



3.Reflow soldering

Profile feature	Soldering condition
Average ramp-up rate (T_L to T_P)	< 3 ℃/sec
Preheat - Temperature Min (T_{smin}) - Temperature Max (T_{smax}) - Time (Min to Max) (t_s)	 150℃ 200℃ 60 ~ 120 sec
T_{smax} to T_L - Ramp-up rate	 < 3 ℃ / sec
Time maintained above : - Temperature (T_L) - Time (T_L)	 217℃ 60 ~ 260 sec
Peak temperature (T_P)	255 ℃ -0 / +5℃
Time with 5℃ of actual peak temperature (T_P)	10 ~ 30 sec
Ramp-down rate	< 6℃ / sec
Time 25℃ to peak temperature	< 6 minutes