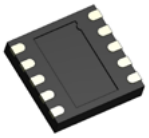
STN265033U380

TVS Diode array ESD suppressor



Applications

- USB interfaces
- 10/100/1000 ethernet
- DVI interfaces
- Wireless data (WAN/LAN) systems
- Analog video
- T1/E1 secondary protection
- T3/E3 secondary protection

Product features

- 450 Watts peak pulse power per line (t_p = 8/20 µs)
- Protects four I/O lines and one V_{CC} line
- Low clamping voltage
- Ultra low capacitance: <3 pF for high-speed interfaces
- Working voltage:3.3 V
- Low leakage current
- Meets moisture sensitivity level (MSL) 3
- Molding compound flammability rating: UL 94V-0
- Termination finish:Ni/Pd/Au

Environmental compliance and general specifications

- IEC61000-4-2 (ESD)
  - ±30 kV (air)
  - ±30 kV (contact)
- IEC61000-4-5 (Lightning) 25 A (8/20 µs)

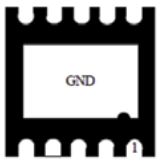
Pb HALOGEN HF FREE RoHS

Ordering part number

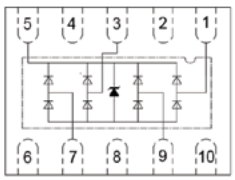
ST N26 5 033 U 380

- Family
- Package (N26- DFN2626)
- Number of channels (5- 5)
- Operating voltage (033-3.3 V)
- Bi/Uni directional (U- Uni)
- Capacitance (380- 3.8 pF)

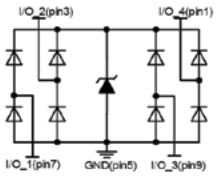
Pin out/functional diagram



DFN2.6×2.6-10L



Top view



Pin configuration

Powering Business Worldwide

Absolute maximum ratings

(+25 °C, RH=45%-75%, unless otherwise noted)

STN265033U380

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20 µs waveform	P_{pp}	450	W
ESD per IEC 61000-4-2 (Air)	V_{ESD}	+/-30	kV
ESD per IEC 61000-4-2 (Contact)		+/-30	
Lead soldering temperature	T_L	+260 (10 seconds)	°C
Operating junction temperature range	T_J	-55 to +125	°C
Storage temperature range	T_{STG}	-55 to +150	°C

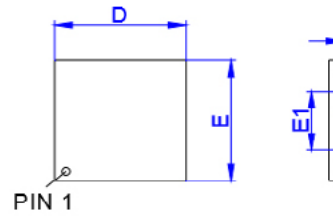
Electrical characteristics

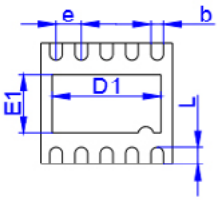
(+25 °C)

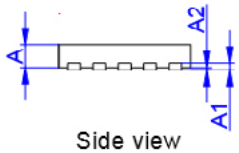
STN265033U380

Parameter	Test condition	Minimum	Typical	Maximum	Symbol (Units)
Reverse working voltage	Any pin to ground	-	-	3.3	V_{RWM} (V)
Reverse breakdown voltage	I_T = 1 mA pin to ground	3.7	-	-	V_{BR} (V)
Reverse holding voltage	I_h = 50 mA	3.5	-	-	V_h (V)
Reverse leakage current	V_{RWM} = 3.3 V	-	-	0.1	I_R (µA)
Clamping voltage	I_{PP} = 5 A, t_p = 8/20 µs I/O pin to GND	-	-	10	V_C (V)
	I_{PP} = 25 A, t_p = 8/20 µs I/O pin to GND	-	-	16	V_C (V)
Junction capacitance	V_{RWM} = 0 V, f = 1 MHz Between I/O pins	-	2	-	C_J (pF)
	V_{RWM} = 0 V, f = 1 MHz I/O pin to GND	-	3.8	5	C_J (pF)

Mechanical parameters, pad layout- mm/inches

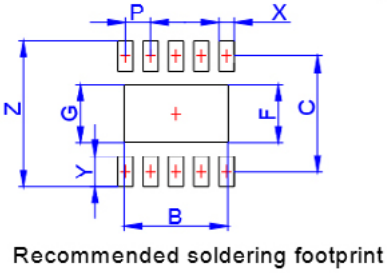






Part marking



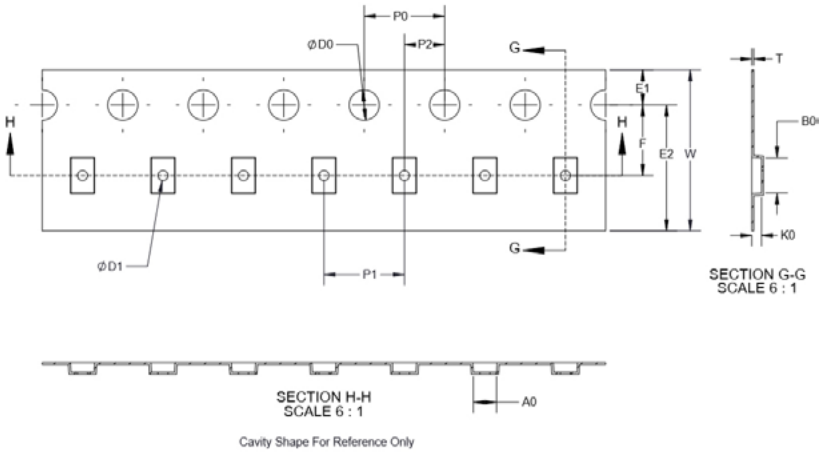


	Millimeters			Inches		
Dimension	**Minimum**	**Typical**	**Maximum**	**Minimum**	**Typical**	**Maximum**
D	2.55	2.60	2.65	0.100	0.102	0.104
E	2.55	2.60	2.65	0.100	0.102	0.104
D1	2.10	2.15	2.20	0.083	0.085	0.087
E1	1.21	1.26	1.31	0.048	0.050	0.052
L	0.30	0.35	0.40	0.012	0.014	0.016
b	0.20	0.25	0.30	0.008	0.010	0.012
e		0.50 BSC			0.020 BSC	
A	0.45	0.50	0.55	0.018	0.020	0.022
A1		0.15 REF			0.006 REF	
A2	0.00	0.02	0.05	0.000	0.001	0.002
B		2.05			0.081	
C		2.50			0.098	
F		1.26			0.050	
G		1.85			0.073	
P		0.50			0.020	
X		0.30			0.012	
Y		0.65			0.026	
Z		3.15			0.124	

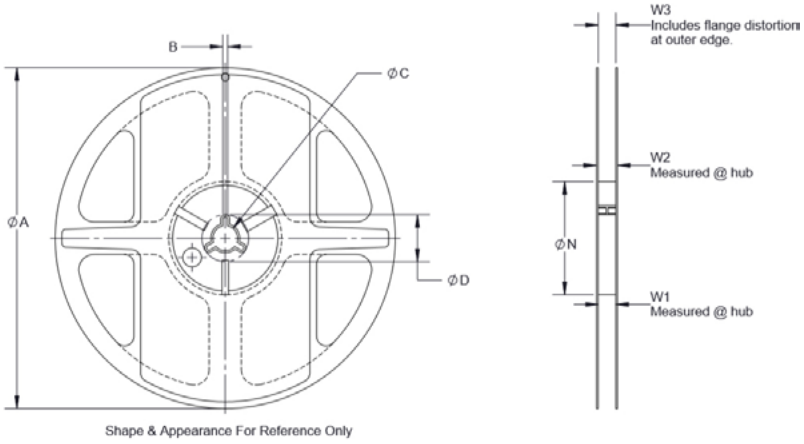
Packaging information mm/inches

Drawing not to scale.

Supplied in tape and reel packaging, 3,000 parts per 7" diameter reel (EIA-481 compliant)



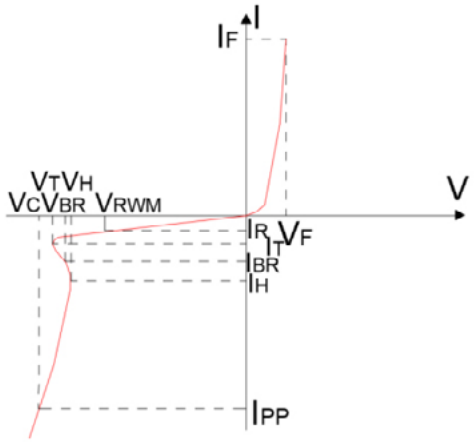
W	8.00
F	3.50
E1	1.75
E2	N/A
P0	4.00
P1	4.00
P2	2.00
ØD0	1.50
ØD1	N/A
A0	2.73
B0	2.78
K0	0.97
T	N/A



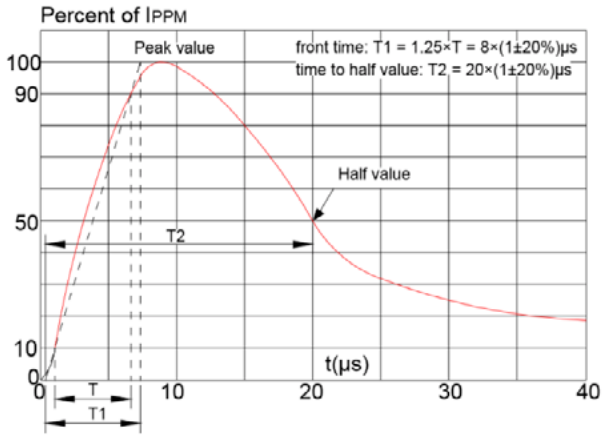
A	178.00
B	N/A
C	13.00
D	N/A
N	54.40
W1	9.50
W2	12.30
W3	N/A

Ratings and V-I characteristic curves (+25 °C unless otherwise noted)

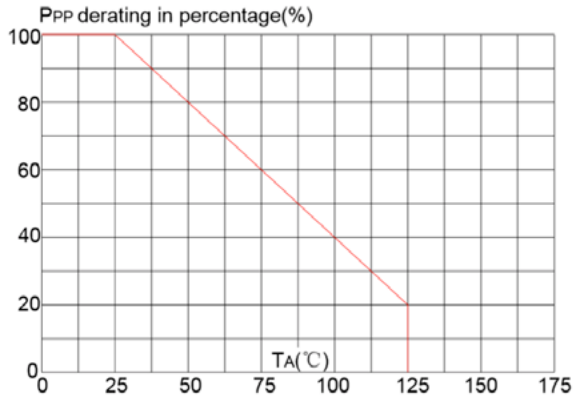
V- I curve characteristics (Uni-directional)



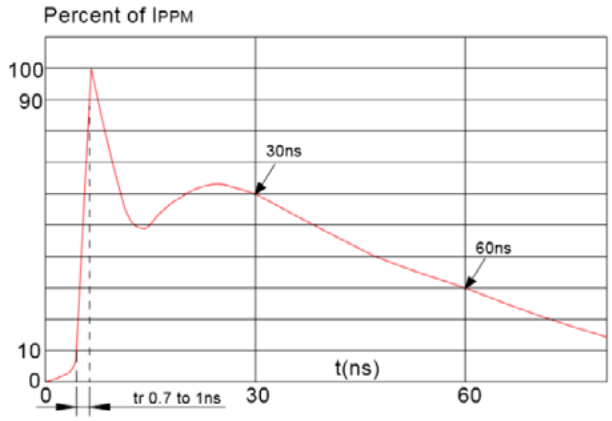
Pulse waveform (8/20 µs)



Pulse derating curve



ESD waveform



Solder reflow profile

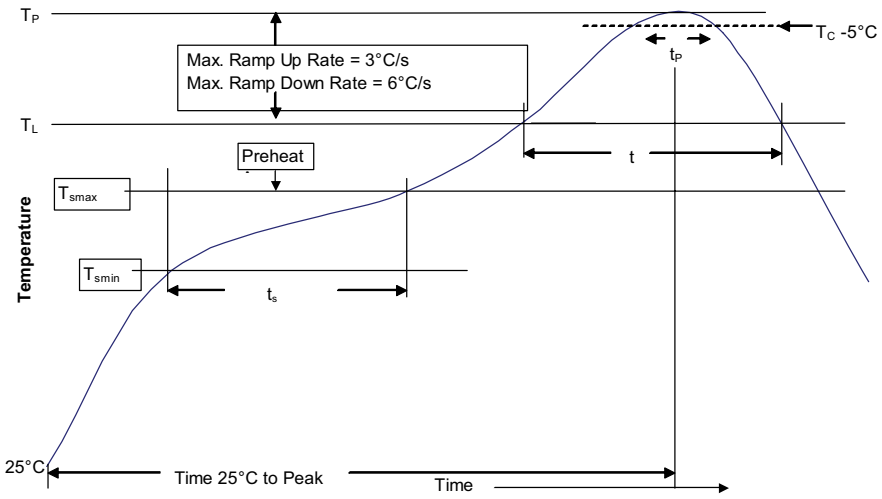


Table 1 - Standard SnPb solder (T_C)

Package thickness	Volume mm3 <350	Volume mm3 ≥350
<2.5 mm	235 °C	220 °C
≥2.5 mm	220 °C	220 °C

Table 2 - Lead (Pb) free solder (T_C)

Package thickness	Volume mm³ <350	Volume mm³ 350 - 2000	Volume mm³ >2000
<1.6 mm	260 °C	260 °C	260 °C
1.6 – 2.5 mm	260 °C	250 °C	245 °C
>2.5 mm	250 °C	245 °C	245 °C

Reference J-STD-020

Profile feature		Standard SnPb solder	Lead (Pb) free solder
Preheat and soak	• Temperature min. (T_{smin})	100 °C	150 °C
	• Temperature max. (T_{smax})	150 °C	200 °C
	• Time (T_{smin} to T_{smax}) (t_s)	60-120 seconds	60-120 seconds
Ramp up rate T_L to T_p		3 °C/ second max.	3 °C/ second max.
Liquidous temperature (T_L) Time (t_L) maintained above T_L		183 °C 60-150 seconds	217 °C 60-150 seconds
Peak package body temperature (T_p)*		Table 1	Table 2
Time (t_p)* within 5 °C of the specified classification temperature (T_C)		20 seconds*	30 seconds*
Ramp-down rate (T_p to T_L)		6 °C/ second max.	6 °C/ second max.
Time 25 °C to peak temperature		6 minutes max.	8 minutes max.

* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

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