

**Transient Voltage Suppressor**

Version: A0 2016-03-14

**Features**

- Protects Up To Two Bidirectional I/O Lines
- Low Capacitance(1.2pF) For High-Speed
- Interfaces Working Voltages:3.3V
- 200 Watts Peak Pulse Power per Line (tp=8/20μs)
- IEC61000-4-2(ESD) ±30kV (air),±30kV (contact)
- IEC61000-4-5(Lighting) 10A (8/20μs)
- Moisture sensitivity level: level 1


**Exterior**

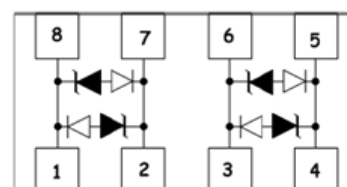
**DFN2010P8**
**Application information**

- 10/100/1000 Ethernet
- Integrated magnetics/RJ-45 connectors
- LAN/WAN Equipment
- Security Cameras
- Industrial Controls
- Notebooks & Desktop Computers

**Package (Top View)**

**Agency Approvals**

ICoN	Description
RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC 61249-2-21:2003
	Mean lead free

**Schematic Symbol**

**Part Number and Electrical Parameter**

Part Number	I <sub>DRM</sub> @V <sub>DRM</sub>		V <sub>BR</sub> @I <sub>BR</sub>		V <sub>C</sub> @I <sub>PP</sub> <sup>①</sup>		C <sub>0</sub> <sup>②</sup>
	μA	V	V	mA	V	A	V
	MAX		MIN		TYE		MAX
<b>BV-SLC2512T</b>	1.0	3.3	3.5	1.0	7.0	12.0	1.2

Absolute maximum rating measured at T=25°C RH=45%-75% (unless otherwise noted).

① Surge Waveform: 8/20us, Pin1,8 to Pin2,7; Pin3,6 to Pin4,5;

 ② Off-state capacitance is measured in V<sub>BR</sub>=0V, f=1MHz, Pin1,8 to Pin2,7; Pin3,6 to Pin4,5;;

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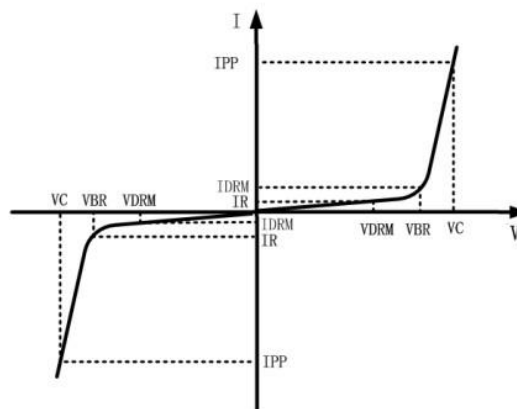
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**Part Number System**
**BV SLC2512T**
**(1) (2)**
**(1) Bencent TVS**
**(2) Series: SLC2512T etc.**
**Mark**


U33: Marking

**V-I Curve**

Parameters	Definition
$V_C$	Clamping voltage
$I_{PP}$	Peak pulse current
$V_{DRM}$	Stand-off Voltage
$V_{BR}$	Breakdown Voltage
$I_{DRM}$	Reverse Leakage Current
$I_R$	Test current
$P_{PP}$	Peak Pulse Power Dissipation


**Thermal Considerations**

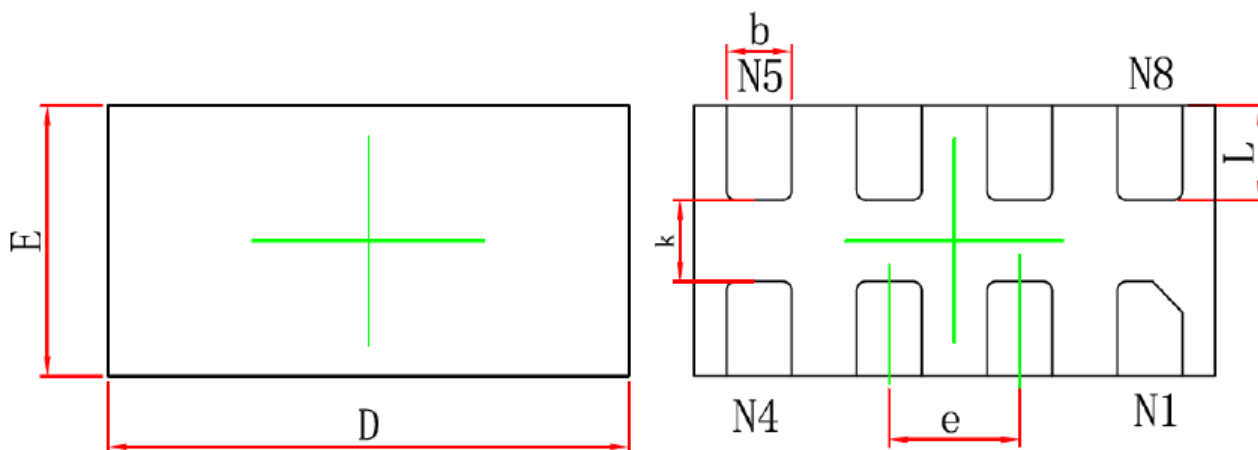
Symbol	Parameter	Value	Unit
$T_j$	Operating Junction Temperature Range	-55 to+150	°C
$T_s$	Storage Temperature Range	-55 to+150	°C

**Environmental Characteristics**

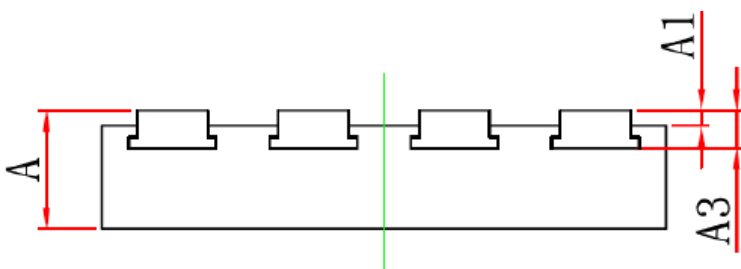
Testing Items	Technical Standards
High Temperature Reverse Bias Test	Temperature:150±3°C,Bias=80% $V_{DRM}$ Time:168H
High Temperature Life Test	Temperature:150°C Time:168H
High-low Temperature Cycle Test	Temperature:From-40°C to 125°C Dwell time:30min,100 cycles
High Temperature & High Humidity Test	Temperature:85°C Humidity:85% Test time:168H
Pressure Cooker Test	Temperature:121°C, 2atm. Humidity:100% Test time:168H
Resistance of Soldering Heat	Temperature:260±5°C Time of dip soldering:10s, 3 times

Note: The above testing items can be specified by customers by contacting Bencent service

## DFN2010P8



BOTTOM VIEW



SIDE VIEW

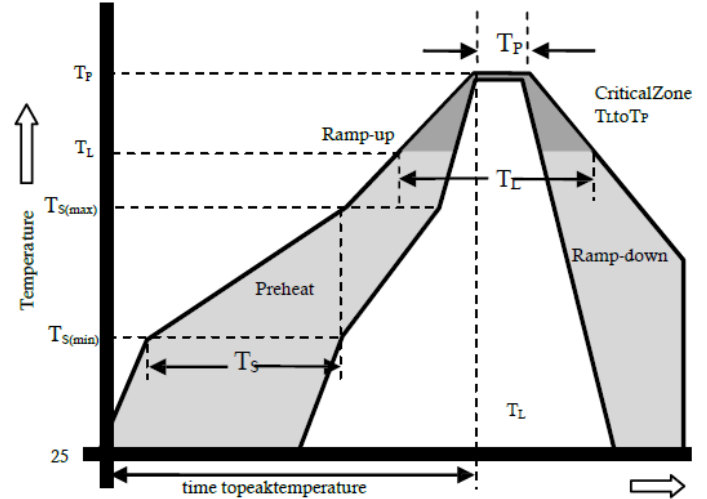
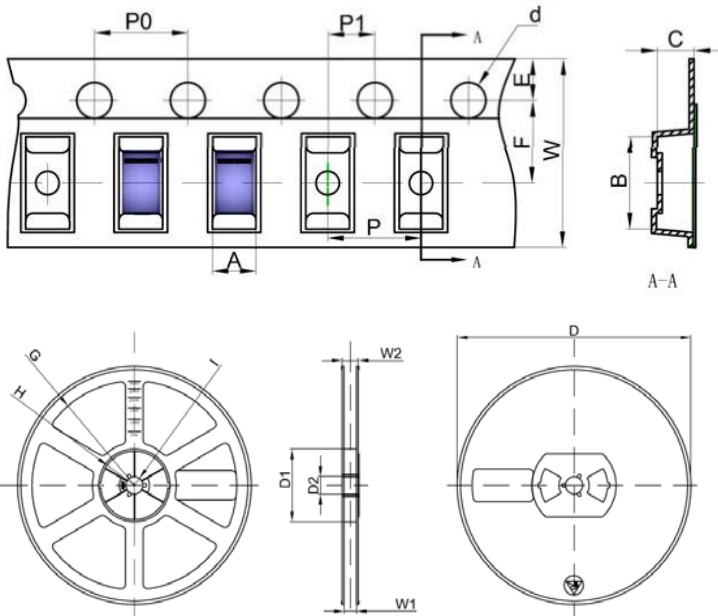
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.800	0.028	0.031
A1	0.000	0.050	0.000	0.002
A3	0.120REF.		0.005REF.	
D	1.924	2.076	0.076	0.082
E	0.924	1.076	0.036	0.042
E1	--	--	--	--
D1	--	--	--	--
k	0.200MIN		0.008MIN	
b	0.180	0.280	0.007	0.011
e	0.500TYP.		0.020TYP.	
L	0.274	0.426	0.011	0.017

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**Reflow Profile**

Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min	150°C
	Temperature Max	200°C
	Time (Min to Max)	20 – 80 secs
Average ramp up rate (Liquid)		3°C/s Max.
Temperature (T <sub>L</sub> ) to peel		3°C/s Max.
T <sub>S</sub> (Max) to T <sub>I</sub> -Ramp-up Rate		3°C/s Max.
Reflow	-Temperature (T <sub>L</sub> )(Liquid)	217°C
	-Temperature (T <sub>I</sub> )	60 – 150 secs
Peak Temperature (T <sub>P</sub> )		(260+0/-5)°C
Time within 5°C of actual Peak Temperature (T <sub>P</sub> )		8– 15 secs
Ramp-down Rate		3°C/s Max.
Time 25°C to peak Temperature(T <sub>P</sub> )		8 min Max
Do not exceed		260°C


**Package Reel Information**


REF	mm	inch
A	1.12±0.05	0.04±0.002
B	2.12±0.05	0.08±0.002
C	0.46±0.05	0.02±0.002
d	Φ1.50+0.10 -0.00	Φ0.06+0.004 -0.00
D	Φ178±2	Φ7.01±0.079
D1	54.4±1	2.14±0.039
D2	13.00±1	0.51±0.039
E	1.75±0.10	0.07±0.004
F	3.5±0.05	0.14±0.002
G	R78.00±1	3.07±0.039
H	R25.60±1	1.01±0.039
I	R6.50±1	0.26±0.039
P0	4.00±0.10	0.16±0.004
P	2.00±0.05	0.08±0.002
P1	2.00±0.05	0.08±0.002
W	8.00+0.30 -0.10	0.31+0.011 -0.004
W1	9.50±1	0.37±0.039
W2	12.30±1	0.48±0.039

Outline	Reel (pcs)	Per Carton (pcs)	Reel Diameters (mm)	Carton Size (mm)		
				L	W	H
Taping	3,000	90,000	178	390	370	220