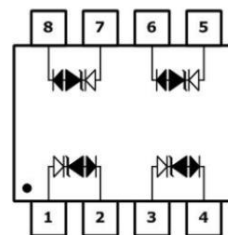


Transient Voltage Suppressor

Features

- IEC 61000-4-2(ESD) $\pm 30\text{KV}$ (air), $\pm 30\text{KV}$ (contact)-A pair
- Compatible with IEC61000-4-5(Surge) 25A, 8/20 μS -A pair
- IEC 61000-4-4(EFT) 40A (5/50nS)
- 450 Watts peak pulse power ($t_p = 8/20\mu\text{ S}$)
- Low reverse current
- Low Junction capacitance
- Moisture sensitivity level: Level 1


Exterior



Application Information

- Ethernet Secondary side

Agency Approvals

Icon	Description
RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003
	Mean lead free

Part Number and Electrical Parameter

Part Number	$I_{\text{DRM}}@V_{\text{DRM}}$		$V_{\text{BR}}^{\text{①}}@I_{\text{R}}$		$V_{\text{c}}@I_{\text{pp}}^{\text{②}}$		$V_{\text{c}}@I_{\text{pp}}^{\text{②}}$		$C_{\text{o}}^{\text{③}}$
	μA	V	V	mA	V	A	V	A	pF
	MAX		MIN		MAX		MAX		MAX
BV-3304P8	0.1	3.3	3.5	1	5.8	1	18	25	2

Absolute maximum ratings measured at $T = 25^{\circ}\text{C}$ RH = 45%-75% (unless otherwise noted).

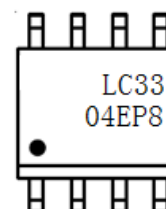
- ① V_{BR} is measured at $I_{\text{R}} = 1\text{mA}$, Pin1to2, Pin3to4, Pin5to6, Pin7to8;
- ② Surge Waveform: 8/20 $\mu\text{ S}$, Pin1to2, Pin3to4, Pin5to6, Pin7to8;
- ③ Off-state capacitance is measured in $V_{\text{DC}} = 0\text{V}$, $V_{\text{RMS}} = 1\text{V}$, $f = 1\text{MHz}$, Pin1to2, Pin3to4, Pin5to6, Pin7to8;

Part Numbering System

BV 33 04 P8
(1) (2) (3) (4)

- (1) Bencent TVS
- (2) $V_{\text{DRM}} = 3.3\text{V}$
- (3) 4 lines protect
- (4) SOP-8 Package

Mark

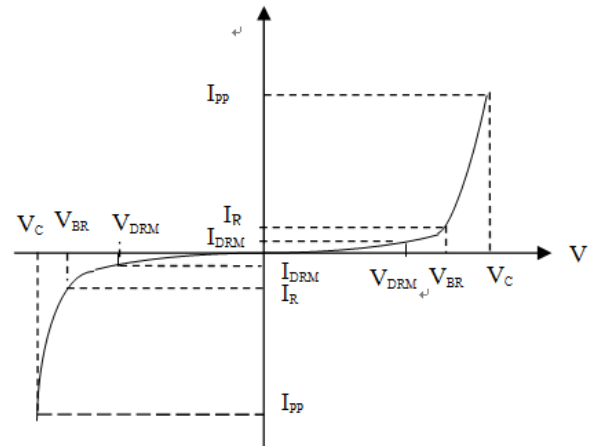


Part Number

Transient Voltage Suppressor

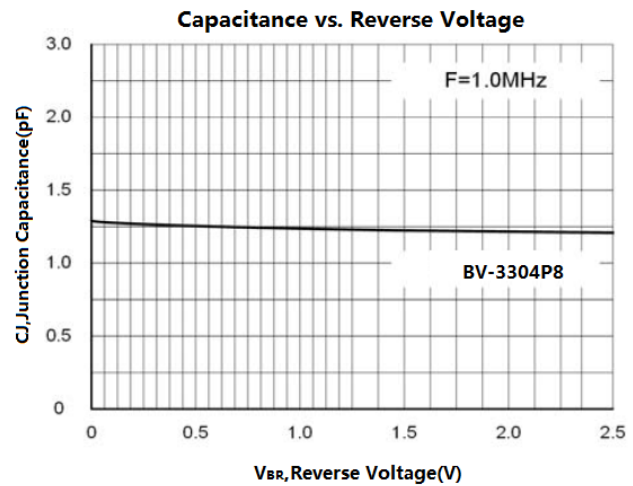
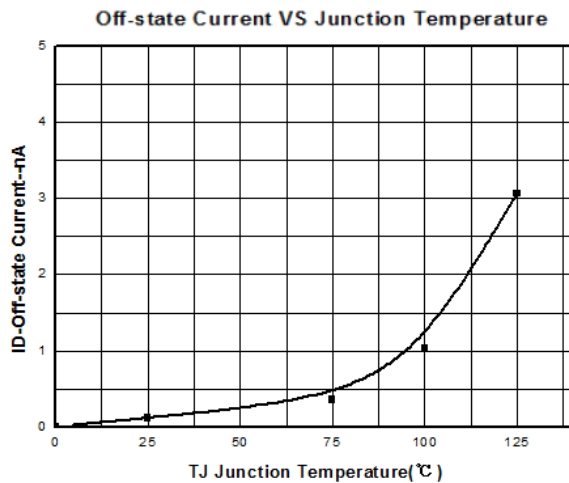
V-I Curve

Parameters	Definition
V_C	Clamping voltage
I_{PP}	Surge waveform 8/20 μ s
V_{DRM}	Stand-off Voltage
V_{BR}	Breakdown Voltage
I_{DRM}	Reverse Leakage Current
I_R	Test current for V_{BR}
P_{pp}	Peak Pulse Power Dissipation



Pin 1&8 to 2&7; Pin 3&6 to 4&5

Typical Characteristics



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

Transient Voltage Suppressor

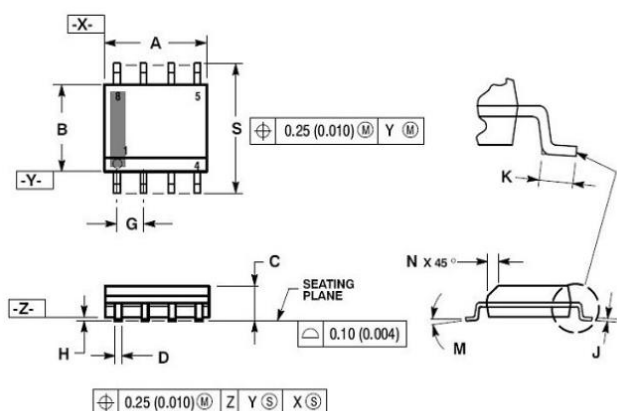
Version: A4 2018-01-26

Environmental Characteristics

Testing items	Technical standards
High temperature Reverse Bias Test	Temperature: $150\pm 3^{\circ}\text{C}$ Bias= $80\%V_{\text{DRM}}$ 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, 10~100cycles
High Temperature & High Humidity Test	Temperature: 85°C Humidity: 85% Time: 168H
Pressure cooker Test	Temperature: 121°C , 2atm. Humidity: 100% Time: 24H
Resistance of soldering heat	Temperature: $260\pm 5^{\circ}\text{C}$ Time of dip soldering: 10s, 3times

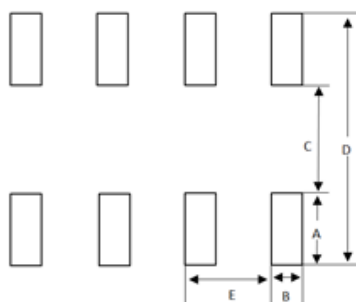
Note: The above testing items can be specified by customer's special request

Product Dimensions



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.80	5.20	0.189	0.205
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.053	0.069
D	0.33	0.51	0.013	0.020
G	1.27BSC		0.05BSC	
H	0.10	0.25	0.004	0.010
J	0.19	0.25	0.007	0.010
K	0.40	1.27	0.015	0.050
M	0°	8°	0°	8°
N	0.25	0.50	0.010	0.020
S	5.80	6.20	0.228	0.244

Recommended Soldering Pad

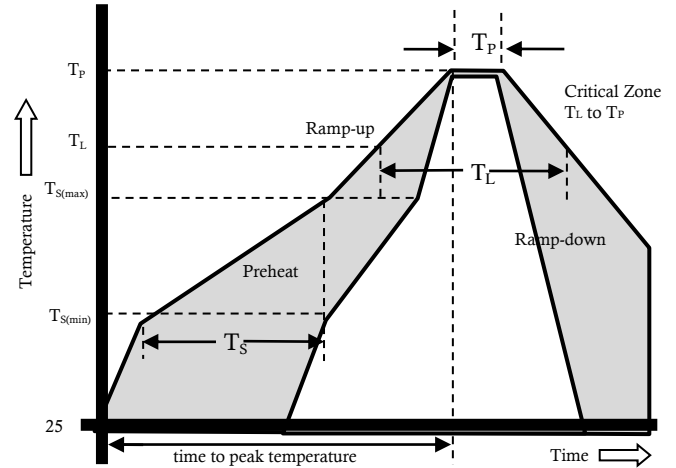


REF	mm	inch
A	1.52	0.060
B	0.60	0.024
C	4.00	0.157
D	7.00	0.276
E	1.27	0.050

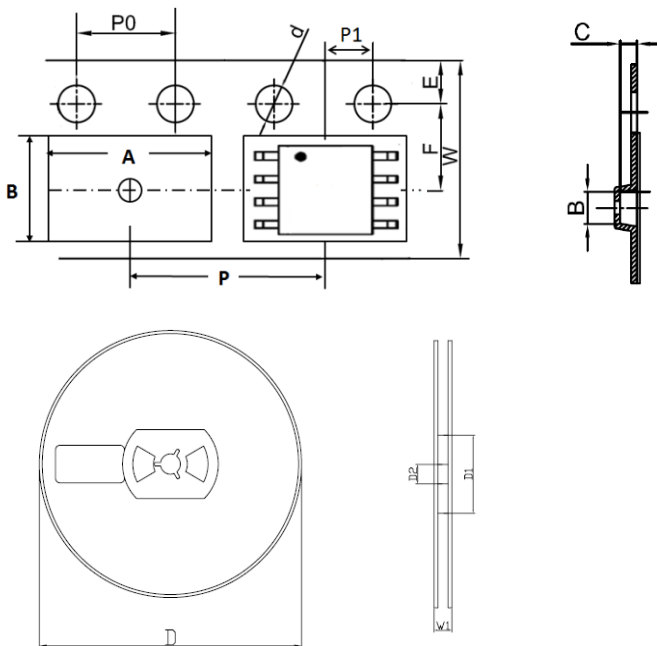
Transient Voltage Suppressor

Reflow Profile

Reflow Condition		Pb-Free assembly
Pre Heat	Temperature Min	150°C
	Temperature Max	200°C
	Time (min to max)	60 – 180 sec
Average ramp up rate (Liquid) T _{amp} (T _L) to peak		3°C/s max
T _{S(max)} to T _L - Ramp-up Rate		3°C/s max
Reflow	- Temperature (T _L) (Liquid)	217°C
	- Temperature (T _L)	60 – 150 sec
Peak Temperature (T _P)		260±0/-5 °C
Time within 5°C of actual peak Temperature (T _P)		25secs
Ramp-down Rate		6°C/s max
Time 25°C to peak Temperature (T _P)		8 min Max.
Do not exceed		260°C



Package Reel Information



REF	mm	inch
A	6.40 ± 0.25	0.2520 ± 0.0098
B	5.40 ± 0.25	0.2126 ± 0.0098
C	1.80 ± 0.10	0.0709 ± 0.0039
d	1.55 ± 0.10	0.0610 ± 0.0039
D	330.00 TYP	13.00 TYP
D1	55 ± 3	2.165 ± 0.118
D2	13 ± 0.5	0.512 ± 0.020
E	1.75 ± 0.10	0.0689 ± 0.0039
F	5.50 ± 0.20	0.2165 ± 0.0079
P	8 ± 0.1	0.315 ± 0.004
P0	4.0 ± 0.1	0.158 ± 0.008
P1	2.0 ± 0.1	0.079 ± 0.004
W	12.00 ± 0.20	0.4724 ± 0.0079
W1	14.4 ± 0.5	0.567 ± 0.020

OUTLINE	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)	CARTON SIZE(mm)		
				L	W	H
TAPING	2500	20,000	330	360	360	380

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