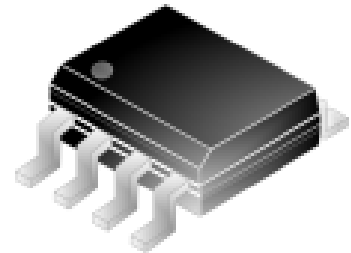




FEATURES

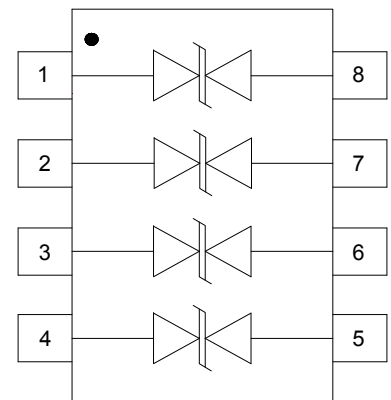
- ✧ 300 Watts peak pulse power per line ($t_P=8/20\mu s$)
- ✧ Bi-directional protection
- ✧ Protects four I/O lines
- ✧ Low leakage current
- ✧ Low operating and clamping voltage
- ✧ Solid-state silicon avalanche technology
- ✧ RoHS compliant



SOP-8

MAIN APPLICATIONS

- ✧ WAN/LAN equipment
- ✧ Desktops, servers, notebooks & handhelds
- ✧ Instrumentation
- ✧ Microprocessor based equipment
- ✧ Data and I/O lines
- ✧ Serial and parallel ports



Pin Configuration(Top view)

PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lightning) 12A (8/20 μs)

MECHANICAL CHARACTERISTICS

- ✧ JEDEC SOP-8 package
- ✧ Molding compound flammability rating : UL 94V-0
- ✧ Quantity per reel : 2,500pcs
- ✧ Lead finish : lead free
- ✧ Marking code : B SM15C

ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20 μs waveform	P_{PP}	300	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/-15 +/-8	kV
Lead soldering temperature	T_L	260 (10 sec.)	$^{\circ}\text{C}$
Operating junction temperature range	T_J	-55 to +125	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V_{RWM}				15	V
Reverse breakdown voltage	V_{BR}	$I_T=1\text{mA}$	16.5			V
Reverse leakage current	I_R	$V_{RWM}=15\text{V}$			1	μA
Peak pulse current	I_{PP}	$t_P=8/20\mu\text{s}$			12	A
Clamping voltage	V_C	$I_{PP}=1\text{A}$, $t_P=8/20\mu\text{s}$			24	V
		$I_{PP}=12\text{A}$, $t_P=8/20\mu\text{s}$			30	
Junction capacitance	C_J	$V_R=0\text{V}$, $f=1\text{MHz}$			60	pF

RATINGS AND V-I CHARACTERISTICS CURVES ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

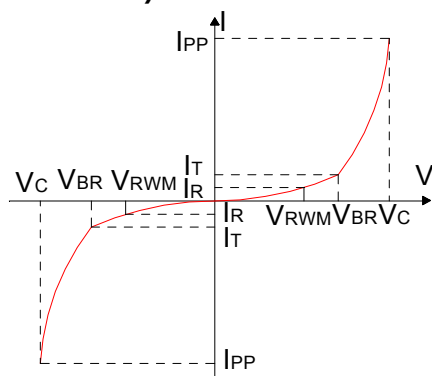
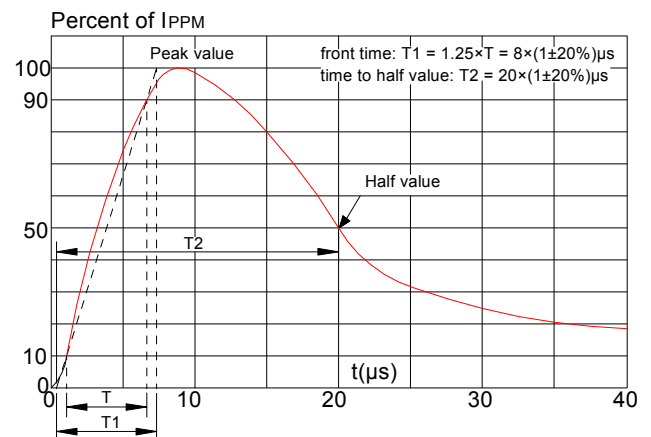
FIG.1: V- I curve characteristics
(Bi-directional)

FIG.2: Pulse waveform (8/20 μs)


FIG.3: Pulse derating curve

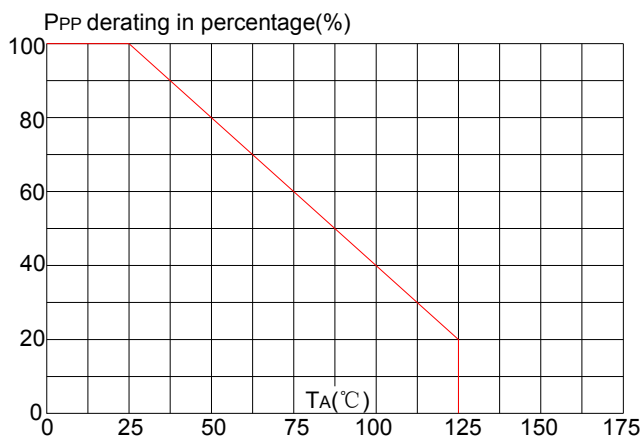
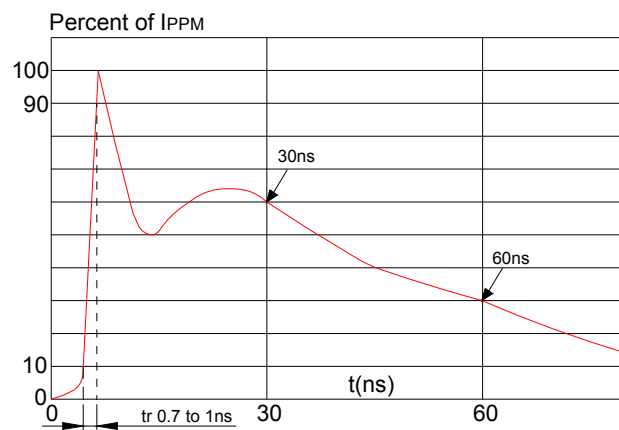
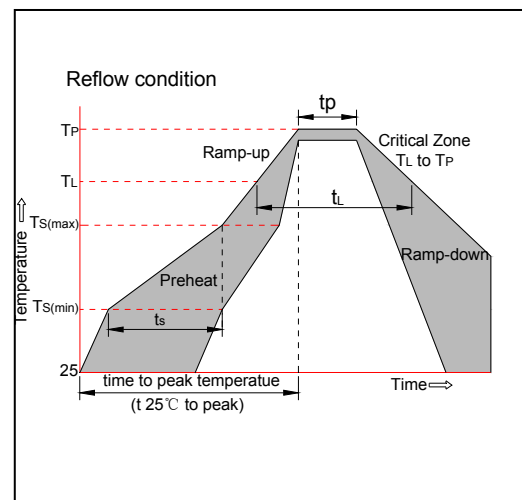


FIG.4: ESD clamping (8kV contact)

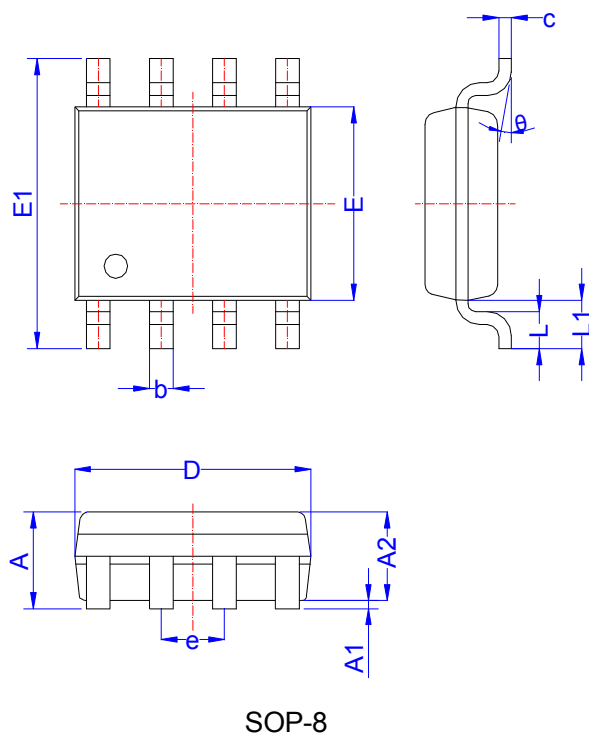


SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquidus)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_P)		20-40secs.
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

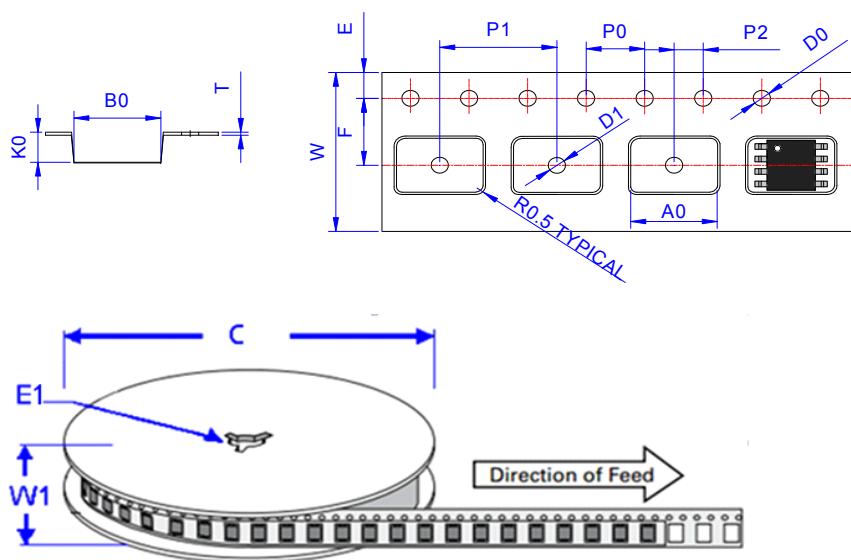


PACKAGE MECHANICAL DATA



Symbol	Millimeter			Inches		
	Min	Typ	Max	Min	Typ	Max
A	1.40	1.55	1.70	0.055	0.061	0.067
A1	0.04	0.11	0.18	0.002	0.004	0.007
A2	1.30	1.40	1.50	0.051	0.055	0.059
b	0.31	0.41	0.51	0.012	0.016	0.020
c	0.17	0.21	0.25	0.007	0.008	0.010
D	4.65	4.90	5.10	0.183	0.193	0.201
E	3.70	3.90	4.10	0.146	0.154	0.161
E1	5.80	6.00	6.20	0.228	0.236	0.244
e	1.14	1.27	1.40	0.045	0.050	0.055
L	0.40	0.50	0.60	0.016	0.020	0.024
L1	0.99	1.05	1.11	0.039	0.041	0.044
θ	0°	4°	8°	0°	4°	8°

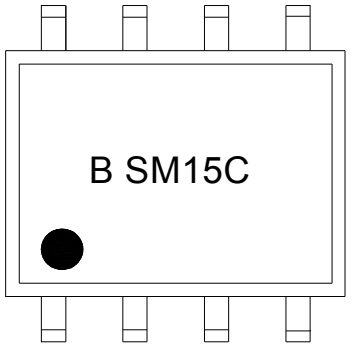
TAPE AND REEL SPECIFICATION-SOP-8



Symbol	Millimeters	Inches
	Typ.	Typ.
A0	6.40	0.252
B0	5.30	0.209
C	330	13.0
D0	1.50	0.059
D1	1.50	0.059
E1	13.30	0.524
E	1.75	0.069
F	5.50	0.217
K0	2.10	0.083
P0	4.00	0.157
P1	8.00	0.315
P2	2.00	0.079
T	0.24	0.009
W	12.00	0.472
W1	15.70	0.618

PART No.	PACKAGE TYPE	QUANTITY(PCS) REEL	DESCRIPTION
JEB15K4P	SOP-8	2,500	13 inch reel pack

MARKING CODE

Part Number	Marking Code
JEB15K4P	 B SM15C

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