Elektronische Bauelemente

SBESDL05C-C

45W, 5V

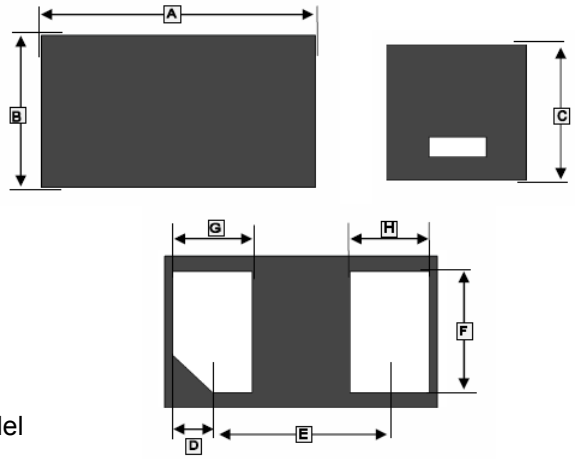
Low Capacitance Bi-Direction ESD Protection Diode

RoHS Compliant Product
A suffix of "-C" specifies halogen and lead-free

DESCRIPTION

Designed to protect voltage sensitive electronic components from ESD and other transients. Excellent clamping capability, low leakage, low capacitance, and fast response time ,make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is suited for use in digital cameras, cellular phones, MP3 players and many other portable applications where board space is at a premium.

DFN1006



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	0.95	1.08	E	0.65BSC	
B	0.55	0.68	F	0.4	0.6
C	0.4	0.55	G	0.2	0.3
D	0.07	0.17	H	0.2	0.3

FEATURES

- Bi-directional ESD protection of one line
- Low capacitance
- Low reverse clamping voltage
- Reverse stand−off voltage: 5V
- ESD Rating of Class 3(>16Kv) Per Human Body Model
- Fast response time
- JESD22-A114-B ESD Rating of class 3B per human body model
- IEC 61000-4-2 Level 3 ESD protection

MARKING

PACKAGE INFORMATION

Package	MPQ	Leader Size
DFN1006	10K	7 inch

ORDER INFORMATION

Part Number	Type
SBESDL05C-C	Lead (Pb)-free and Halogen-free

ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise noted.)

Parameter		Symbol	Ratings	Unit
ESD per IEC 61000−4−2	Air	V_{ESD} [1]	±15	kV
	Contact		±15	
JESD22-A114-B ESD Voltage	Per Human Body Model		±20	
	Machine Model		±0.4	
Peak Pulse Power @tp=8/20μs		P_{PP}	45	W
Peak Pulse Current @tp=8/20μs		I_{PP}	4	A
Maximum Lead Solder Temperature(10 Second Duration)		T_L	260	°C
Operating Junction and Storage Temperature Range		T_J, T_{STG}	150, -55~150	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted.)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	V_{RWM}	-	-	5	V
Reverse Breakdown Voltage @I_T=1mA	V_{BR}	6	8	-	V
Reverse Leakage Current @V_{RWM}=5V	I_R	-	-	0.1	μA
Clamping Voltage @I_{PP}=4A	V_C [1]	-	10.5	12	V
Junction Capacitance @V_R=0, f=1MHz	C_J	-	0.35	0.4	pF

Note:
1. Device stressed with ten non-repetitive ESD pulses.

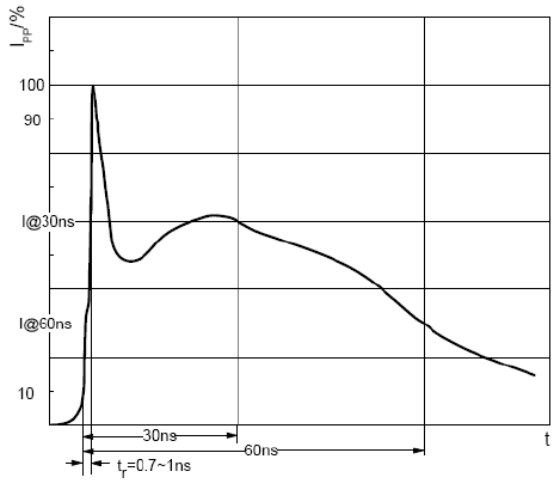
ESD STANDARDS COMPLIANCE

IEC61000-4-2 Standard

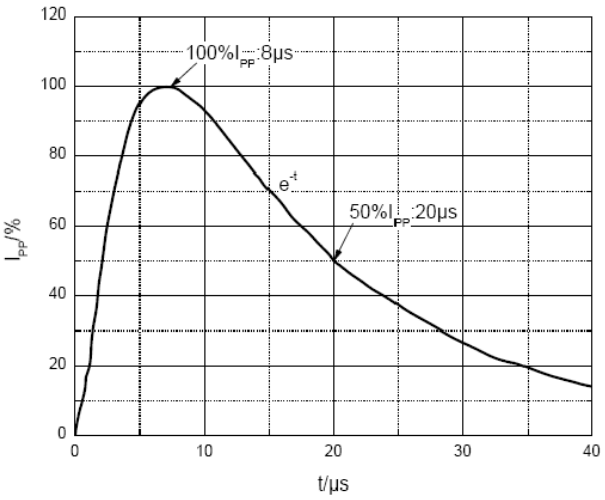
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

JESD22-A114-B Standard

ESD Class	Human Body Discharge V
0	0～249
1A 1B 1C	250～499 500～999 1000～1999
2	2000～3999
3A 3B	4000～7999 8000～15999



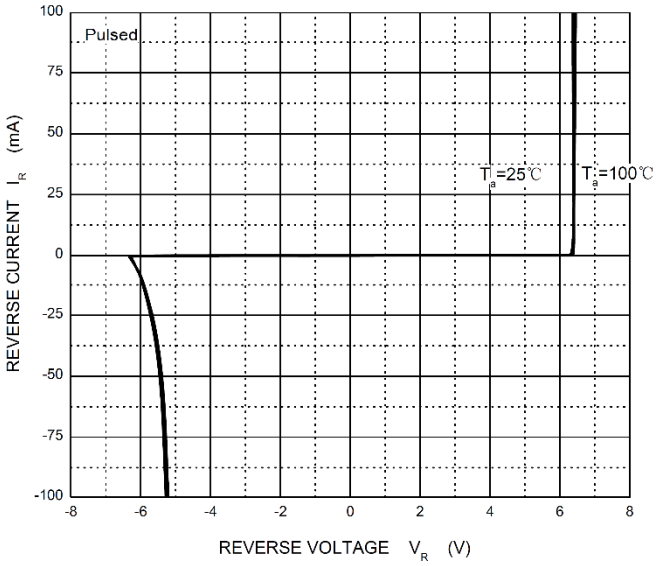
ESD pulse waveform according to IEC61000-4-2



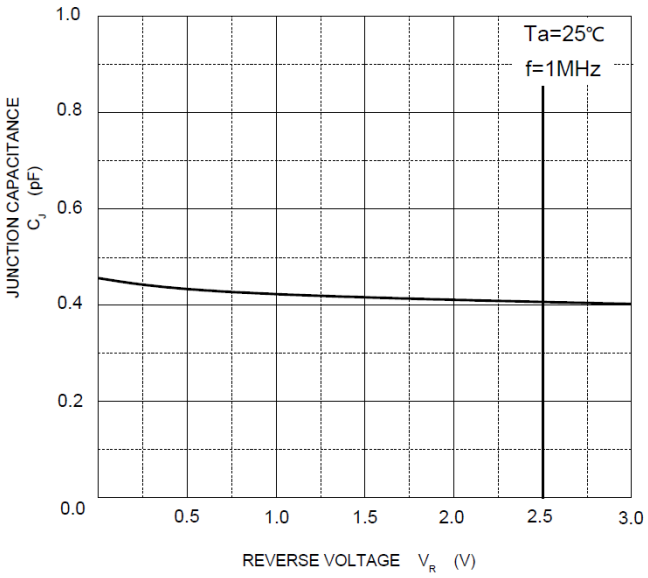
8/20μs pulse waveform according to IEC 61000-4-5

TYPICAL CHARACTERISTICS

Reverse Characteristics



Capacitance Characteristics



V_C — I_{PP}