ECENCAA5VB

Single-Line ESD Protection Array

The ECENCAA5VB 1LF is designed with ECORE process TVS technology to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space comes at a premium.

It has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD(electrostatic discharge), and EFT (electrical fast transients).

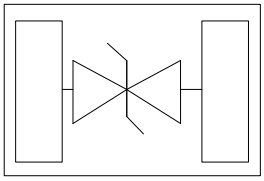
Features

- Peak Power Dissipation –40W (8 x 20 us Waveform)
- Stand-off Voltage：5.0V
- Low capacitance (<15pF) for high-speed interfaces
- No insertion loss to 1GHz
- Protects I/O Port
- Low Clamping Voltage
- Low Leakage
- Meets MSL 1 Requirements
- ROHS compliant

DFN0603-2L

Main applications

- High Speed Line : USB1.0/2.0,VGA
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals



Protection solution to meet

- IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)

Ordering Information

Device	Package	Qty per Reel	Reel Size
ECENCAA5VB	DFN0603	10,000pcs	7 Inch

Maximum ratings (Tamb=25℃ Unless Otherwise Specified)			
Parameter	**Symbol**	**Value**	**Unit**
Peak Pulse Power (tp=8/20μs waveform)	P_{PPP}	40	Watts
ESD Rating per IEC61000-4-2： Contact Air		30 30	KV
Lead Soldering Temperature	T_L	260 (10 sec.)	℃
Operating Temperature Range	T_J	-55 ~ 150	℃
Storage Temperature Range	T_{STG}	-55 ~ 150	℃
Lead Solder Temperature − Maximum (10 Second Duration)	T_L	260	℃

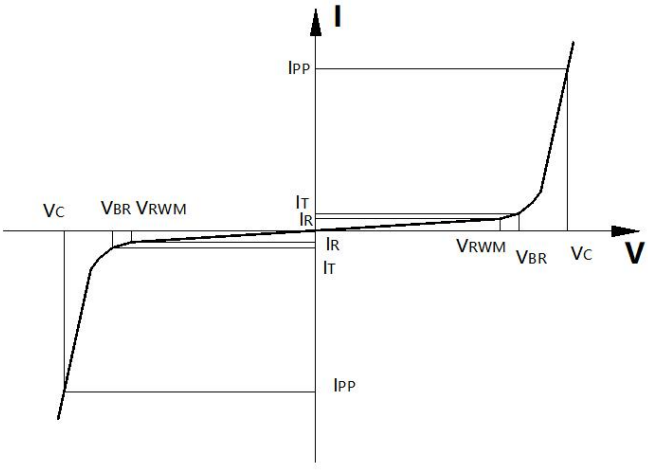
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

**Other voltages may be available upon request.*

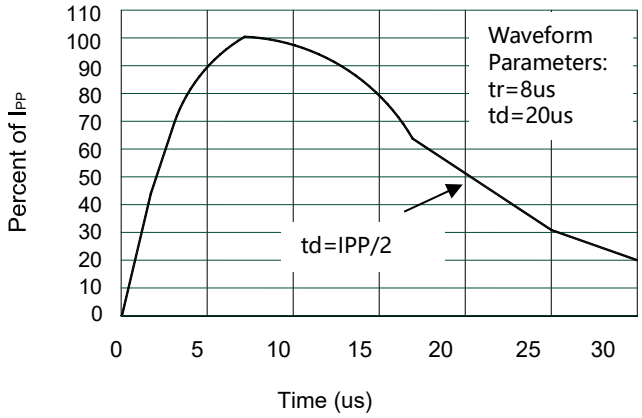
1. Non-repetitive current pulse, per Figure 1.

Electrical characteristics (Tamb=25℃ Unless Otherwise Specified)						
Symbol	**Parameter**	**Conditions**	**Min.**	**Typ.**	**Max.**	**Units**
V_{RWM}	Reverse Working Voltage				5.0	V
V_{BR}	Breakdown Voltage	I_T= 1mA,	6.0		12	V
I_R	Reverse Leakage Current	V_{RWM} = 5V,		0.001	0.1	uA
V_C	Clamping Voltage	I_{PP} = 1A, tp =8/20μs,		8.7	15	V
		I_{PP} = 4A, tp =8/20μs,		11.2	17.5	
C_J	Junction Capacitance	V_R = 0V, f = 1MHz,		10.2	15	pF
		V_R = 5V, f = 1MHz,		7.5	10.2	pF

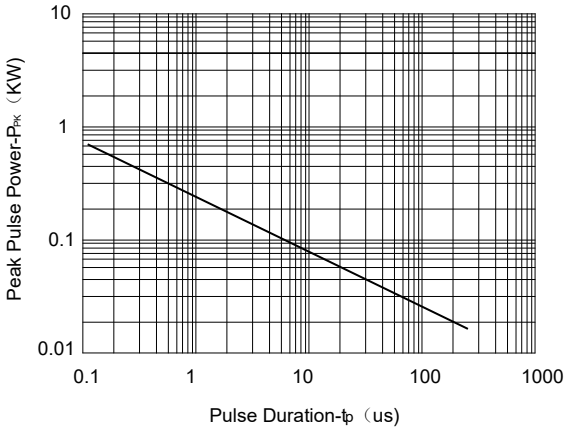
Symbol	Parameter
V_{RWM}	Working Peak Reverse Voltage
V_{BR}	Breakdown Voltage @ I_T
V_C	Clamping Voltage @ I_{PP}
I_T	Test Current
I_{RM}	Leakage current at V_{RWM}
I_{PP}	Peak pulse current
C_O	Off-state Capacitance
C_J	Junction Capacitance



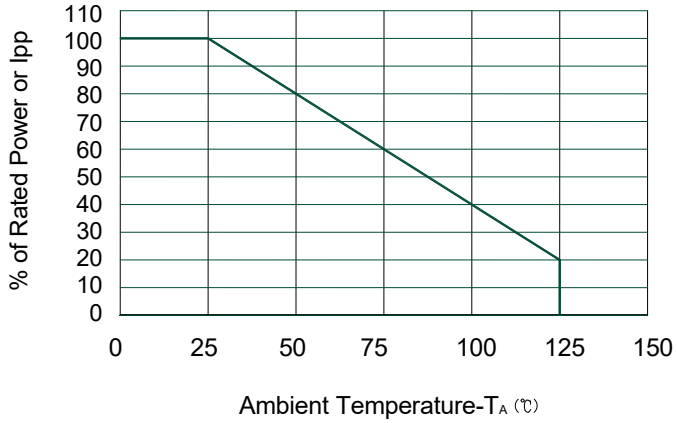
Typical electrical characterist applications



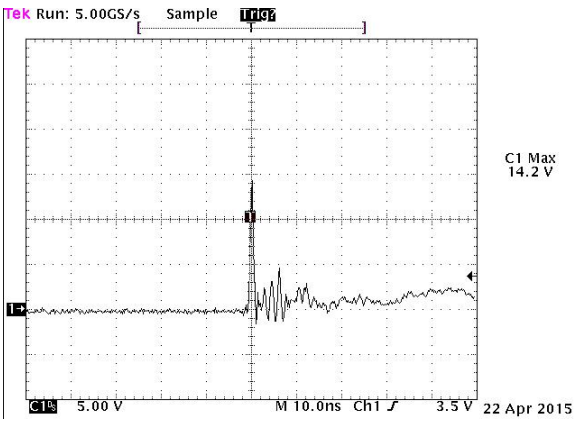
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time

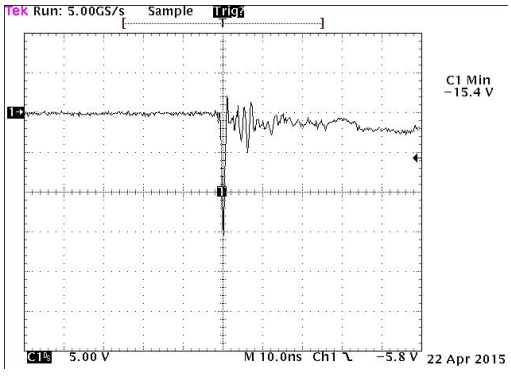


Power Derating Curve



ESD clamp voltage

Positive 8KV IEC61000-4-2 contact



ESD clamp voltage

Negative 8KV IEC61000-4-2 contact

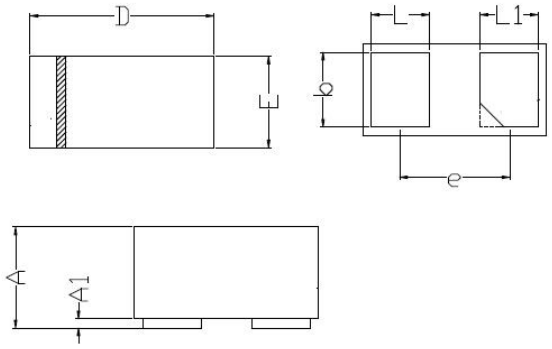
Package Information

DFN0603-2L

Mechanical Data

Case: DFN0603-2L

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.230	0.330
A1	0.000	0.050
D	0.550	0.650
E	0.250	0.350
b	0.215	0.295
L	0.115	0.225
L1	0.115	0.225
e	0.535BSC	

Recommended Pad outline