

ECENCAB24VB

Low-Capacitance Bidirectional Micro Packaged TVS Diodes for ESD Protection

The ECENCAB24VB is 24V bi-direction 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.

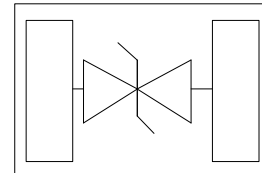
The ECENCAB24VB has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD(electrostatic discharge), and EFT (electrical fast transients).

Features

- Peak Power Dissipation –300 W (8 x 20 us Waveform)
- Stand-off Voltage: 24 V
- Low capacitance (<20pF) for high-speed interfaces
- Replacement for MLV (0402)
- Protects I/O Port
- Low Clamping Voltage
- Low Leakage
- Low Capacitance
- Response Time is < 1 ns
- Meets MSL 1 Requirements
- ROHS compliant
- Solid-state Punch-Through TVS Process technology



DFN1006



Main applications

- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals
- MP3 Players

Protection solution to meet

- IEC61000-4-2 (ESD) ±20kV (air), ±15kV (contact)
- IEC61000-4-5 (Lightning) 5A (8/20µs)

Ordering Information

Device	Qty per Reel	Reel Size
ECENCAB24VB	10000	7 Inch

Maximum ratings (Tamb=25°C Unless Otherwise Specified)			
Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20µs waveform)	P _{PPP}	300	Watts
ESD Rating per IEC61000-4-2:	Contact	8	KV
	Air	15	
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Operating Temperature Range	T _J	-55 ~ 150	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T _L	260	°C

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.

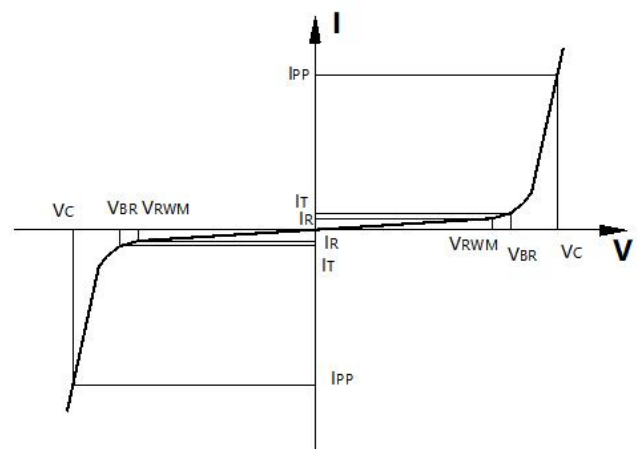
*Other voltages may be available upon request.

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

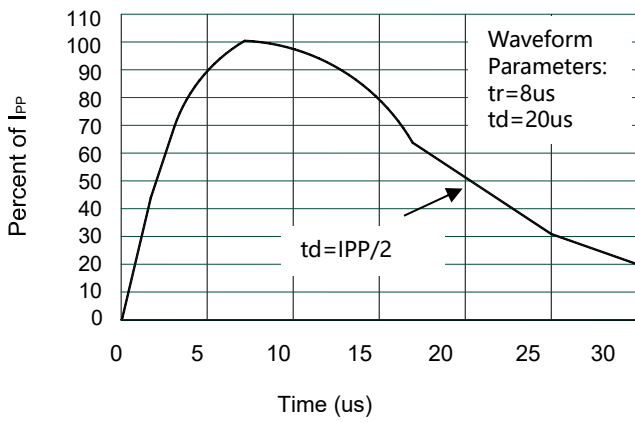
Junction capacitance is measured in VR=0V, F=1MHz

Electrical characteristics (Tamb=25°C Unless Otherwise Specified)						
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
V _{RWM}	Reverse Working Voltage		--	--	24	V
V _{BR}	Reverse Breakdown Voltage	I _T = 1mA,	27	--	--	V
I _R	Reverse Leakage Current	V _{RWM} = 24V,	--	0.01	0.2	µA
V _C	Clamping Voltage	I _{PP} = 1A, tp =8/20µs,	--	--	40	V
V _C	Clamping Voltage	I _{PP} = 5A, tp =8/20µs,	--	--	60	V
C _J	Junction Capacitance	V _R = 0V, f = 1MHz,	--	18	20	pF

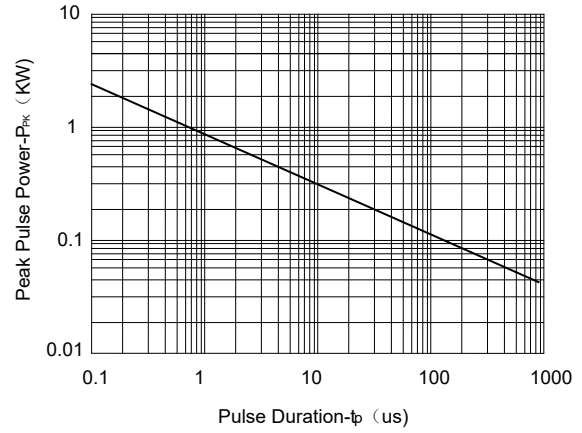
Symbol	Parameter
V _{RWM}	Working Peak Reverse Voltage
V _{BR}	Breakdown Voltage @ I _T
V _C	Clamping Voltage @ I _{PP}
I _T	Test Current
I _{RM}	Leakage current at V _{RWM}
I _{PP}	Peak pulse current
C _O	Off-state Capacitance
C _J	Junction Capacitance



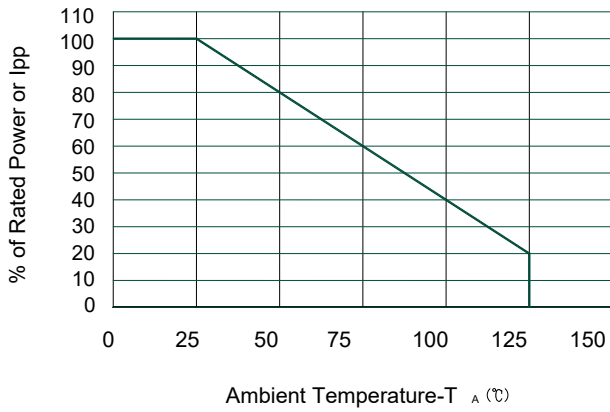
Typical electrical characterist applications



Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve

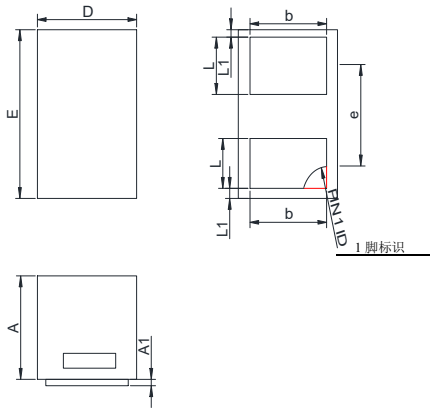
Package Information

DFN1006

Mechanical Data

Case:DFN1006

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.40	0.50
A1	0.00	0.05
D	0.55	0.65
E	0.95	1.05
b	0.45	0.55
e	0.65TYP	
L	0.2	0.32
L1	0.05REF	

Recommended Pad outline

