WILLAS

RoHS COMPLIANT

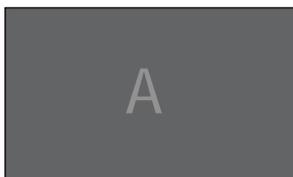‡ ˙o Ù **TVS For ESD Protection**

FEATURES

- Package optimized for high-speed lines
- Ultra-small package (1.0mmx0.6mmx0.4mm)
- Protects one data, control or power line
- Low capacitance
- Low leakage current
- Low clamping voltage
- Each I/O pin can withstand over 1000 ESD strikes for ±8kV contact discharge
- MSL 3

APPLICATIONS

- Portable Electronics
- Desktops, Servers and Notebooks
- Cellular Phones
- MP3 Ports
- Digital Ports
- Subscriber Identity Module (SIM) card

MECHANICAL DATA

- Case：Molded, plastic DFN1006-2L
- Polarity：Shown follows
- Epoxy : UL94-V0 rated flame retardant

IEC COMPATIBILITY

- IEC 61000-4-2 (ESD) ±15kV (Air), ±8kV (Contact)
- EC 61000-4-4 (EFT) 40A (5/50 ns)
- Cable Discharge Event (CDE)

## DFN1006-2L PACKAGE

Marking : M

A

SCHEMATIC & PIN CONFIGURATION
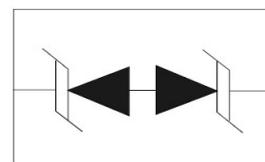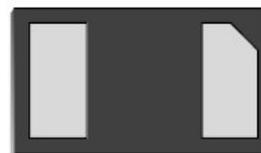
DESCRIPTION

- SESD05CD is a low-capacitance Transient Voltage Suppressor (TVS) designed to provide electrostatic discharge (ESD) protection for data, control or power lines. With typical capacitance of 8pF only, SESD05CD is designed to protect parasitic-sensitive systems against over-voltage and over-current transient events. It complies with IEC 61000-4-2 (ESD), Level 4 (±15kV air, ±8 kV contact discharge), IEC 61000-4-4 (electrical fast transient - EFT) (40A, 5/50 ns), very fast charged device model (CDM) ESD and cable discharge event (CDE), etc.
- SESD05CD uses ultra-small DFN1006 package. Each SESD05CD device can protect one data line. It offers system designers flexibility to protect single data line where space is a premium concern.

ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (8/20µs)	100	W
T_j	Operating Temperature	-55/+125	°C
T_{STG}	Storage Temperature	-55/+150	°C

ELECTRICAL CHARACTERISTICS (Tamb=25°C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Stand-Off Voltage				5.0	V
V_{BR}	Reverse Breakdown voltage	I_T=1mA	6.0			V
I_R	Reverse leakage current.	V_{RWM}=5V			1	µA
I_{PP}	Peak Pulse Current	t_P=8/20us			5	A
V_C	Clamping Voltage	I_{PP}=1A, t_P=8/20us I_{PP}=5A, t_P=8/20us		13	9.5 15	V
C_J	Junction Capacitance	V_R=0V,f=1MHz		8	15	pF

ELECTRICAL CHARACTERISTICS CURVE

Figure 1: Peak Pulse Power Vs Pulse Time
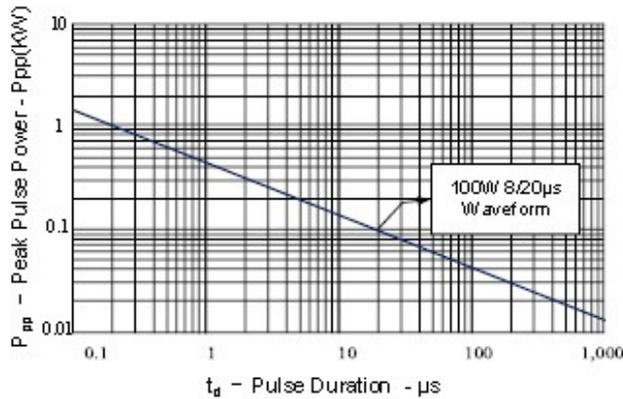
Figure 2: Power Derating Curve
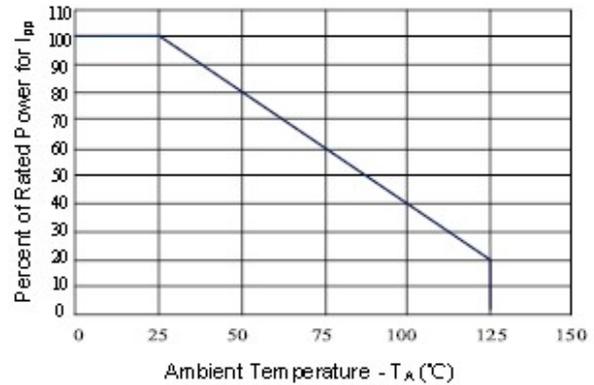
Figure 3: Clamping Voltage vs. Peak Pulse Current
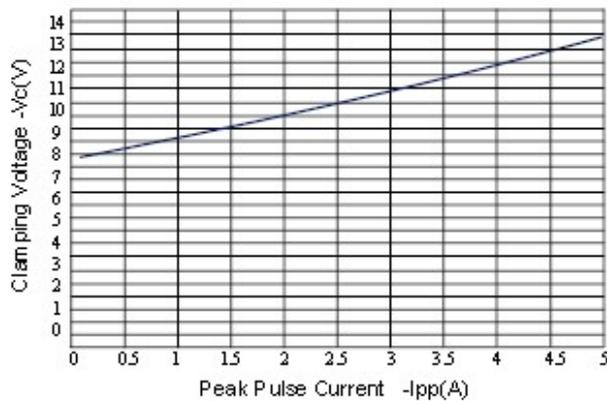
Figure 4: Normalized Junction Capacitance vs. Reverse Voltage
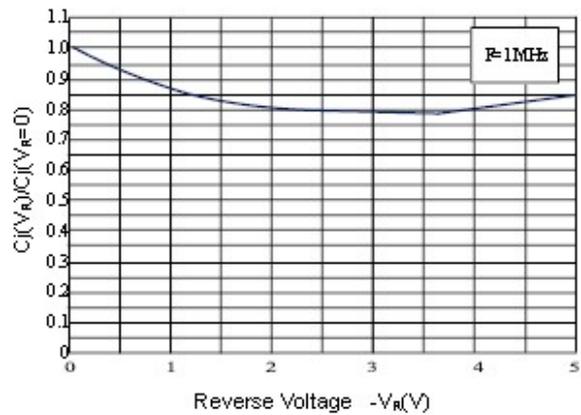
Figure 5: Pulse Waveform
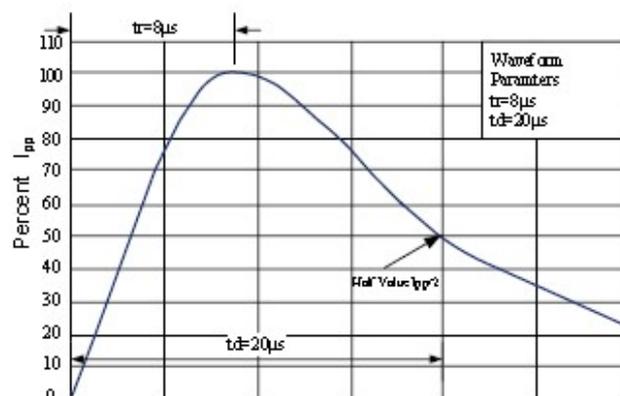
Figure 6: ESD Clamping(8kV Contact per IEC 61000-4-2)
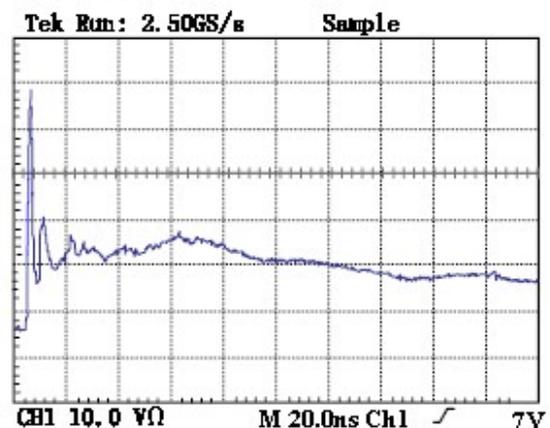
Outline Drawing | DFN1006-2L

.043(1.07)
.037(0.95)

.022(0.55)
.014(0.35)

MAX .002(0.05)

.012(0.30)
.008(0.20)

.024(0.60)
.010(0.25)

.026(0.67)
.022(0.55)

.026(0.65)BSC
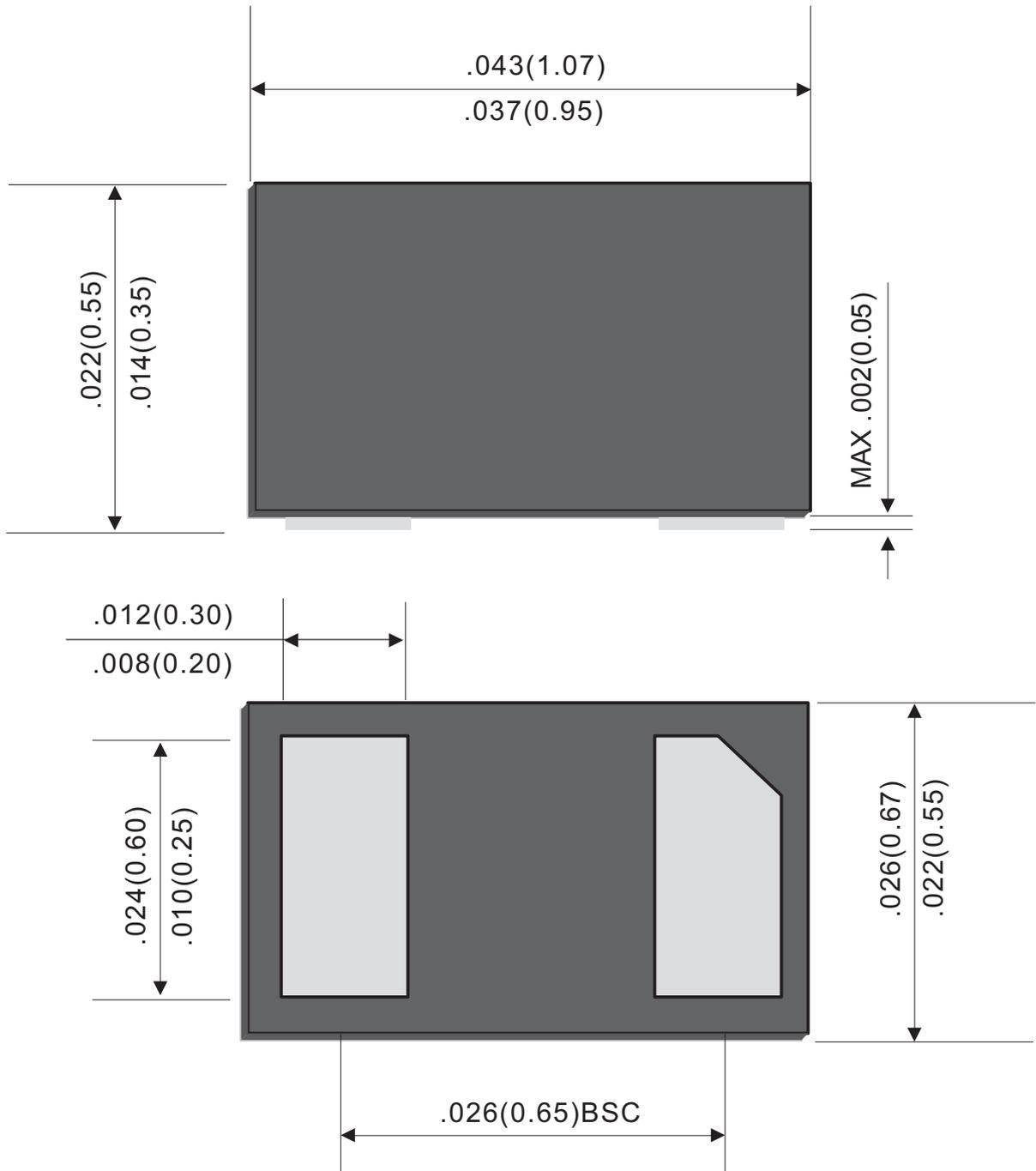
Dimensions in inches and (millimeters)

Rev.B!%

Ordering Information:

Device PN	Packing
SESD05CD -T$^{(1)}$H$^{(2)}$-WS	Tape&Reel: 10 Kpcs/Reel

Note: (1) Packing code, Tape & Reel

      (2) Halogen free product for packing code suffix "H"

Disclaimer

WILLAS reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. WILLAS or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on WILLAS data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. WILLAS does not assume any liability arising out of the application or use of any product or circuit.

This is the preliminary specification. WILLAS products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of WILLAS. Customers using or selling WILLAS components for use in such applications do so at their own risk and shall agree to fully indemnify WILLAS Inc and its subsidiaries harmless against all claims, damages and expenditures.