



IEC Compliance

- ◆ IEC 61000-4-2 (ESD)
30KV - Contact Discharge
30KV - Air Discharge
- ◆ IEC 61000-4-4 (EFT) 40A (5/50ns)

Application

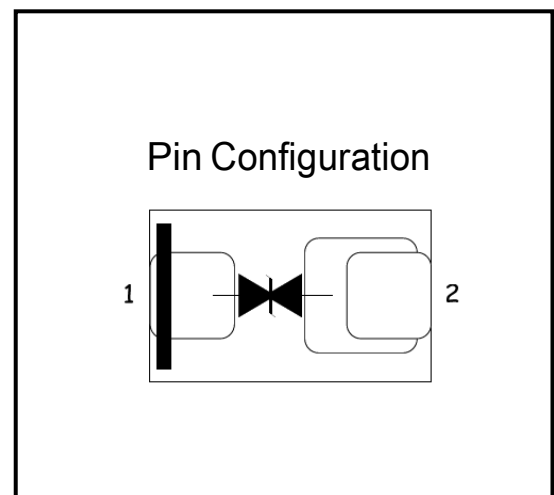
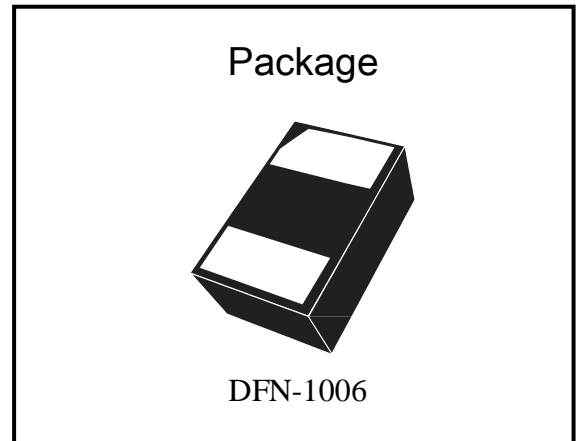
- ◆ Laptop Computers
- ◆ Cellular Phones
- ◆ Digital Cameras
- ◆ Personal Digital Assistants(PDAs)

Features

- ◆ Low Clamping Voltage
- ◆ Low Leakage Current
- ◆ Single Line, Bi-Directional

Mechanical Characteristics

- ◆ DFN-1006 Package (0402)
- ◆ Weight 0.5 Milligram (Approximate)
- ◆ Flammability Rating UL 94V-0
- ◆ Marking 5T



DEVICE CHARACTERISTICS

YSESDC05CP

| Maximum Rating | | | |
|--|-----------|--------------|-------|
| Parameter | Symbol | Value | Units |
| Electrostatic discharge Voltage (See Note1 ,2) | V_{ESD} | 30 (contact) | KV |
| | | 30 (air) | |
| Operating Temperature | T_J | -55 to + 125 | °C |
| Storage Temperature | T_{STG} | -55 to + 150 | °C |

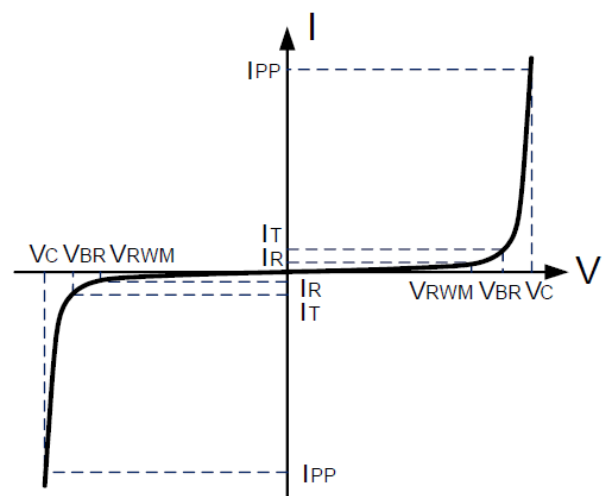
| Electrical Chaacteristics (@25°C) | | | | | | |
|------------------------------------|-----------|--------------------------------|---------|---------|---------|---------|
| Parameter | Symbol | Conditions | Minimum | Typical | Maximum | Units |
| Reverse Stand-Off Voltage | V_{RWM} | | | | 5.0 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1mA$ | 6.0 | | | V |
| Reverse Leakage Current | I_R | $V_{RWM}=5V$, $T=25^{\circ}C$ | | | 0.5 | μA |
| Clamping Voltage | V_C | $I_{PP}=1A$, $t_p=8/20\mu s$ | | 8.5 | 10 | V |
| Junction Capacitance | C_j | $V_R = 0V$, $f= 1MHz$ | | 0.4 | 0.6 | pF |

Note1: ESD Pulse Waveform according to IEC 61000-4-2. see Table1 and Figure4.

Note2: ESD tests Setup see Figure 5.

Electrical Parameters (T=25°C)

| Symbol | Parameter |
|-----------|---|
| I_{PP} | Maximum Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| V_{RWM} | Working Peak Reverse Voltage |
| I_R | Maximum Reverse Leakage Current @ V_{RWM} |
| V_{BR} | Breakdown Voltage @ I_T |
| I_T | Test Current |



DEVICE CHARACTERISTICS

YSESDC05CP

Typical Characteristics

Figure 1: Power Derating Curve

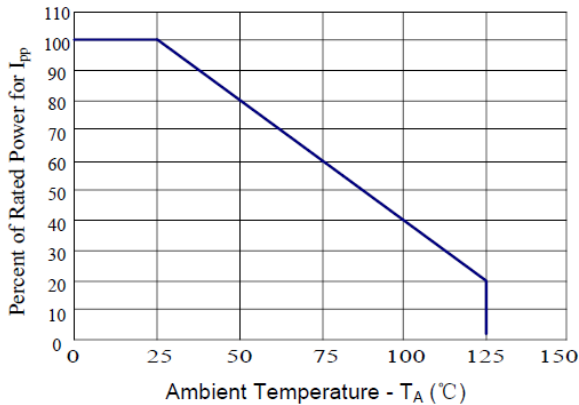


Figure 2: Insertion Loss

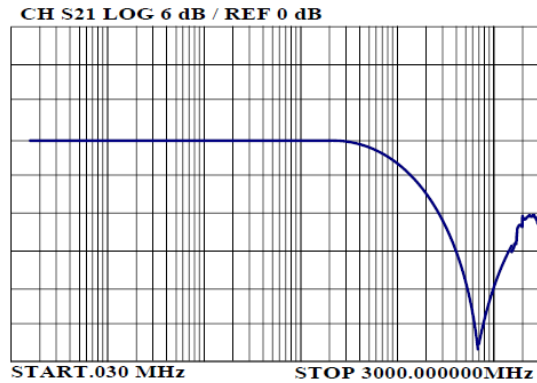


Figure 3: Normalized Junction Capacitance vs. Reverse Voltage

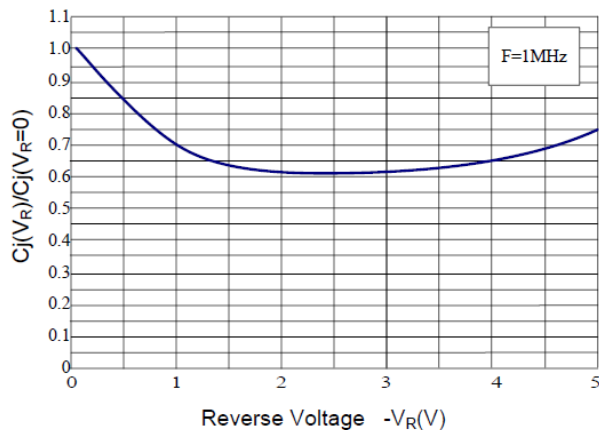


Table 1. IEC 61000-4-2 Discharge Parameters

| Level | First Peak Current (A) | Peak Current at 30 ns (A) | Peak Current at 60 ns (A) | Test Voltage (Contact Discharge) (kV) | Test Voltage (Air Discharge) (kV) |
|-------|------------------------|---------------------------|---------------------------|---------------------------------------|-----------------------------------|
| 1 | 7.5 | 4 | 2 | 2 | 2 |
| 2 | 15 | 8 | 4 | 4 | 4 |
| 3 | 22.5 | 12 | 6 | 6 | 8 |
| 4 | 30 | 16 | 8 | 8 | 15 |

Figure 4. IEC 61000-4-2 Waveform

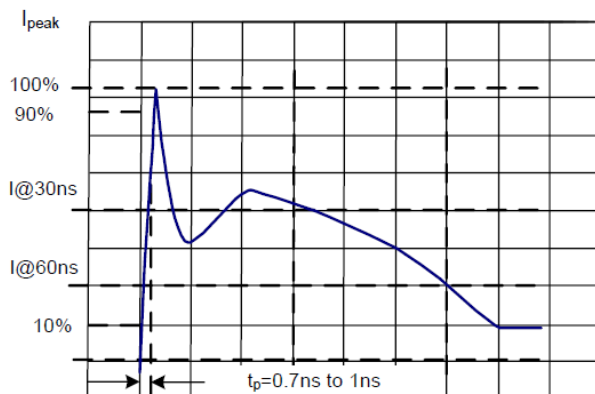
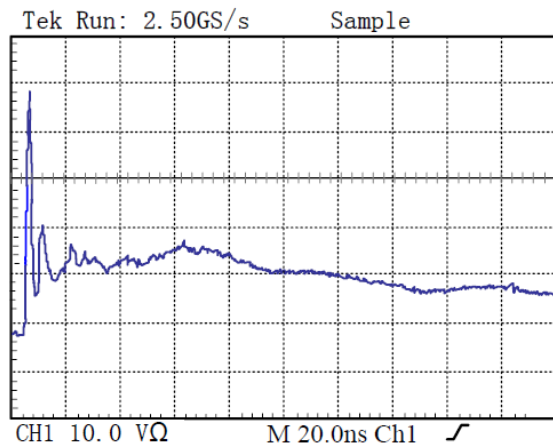


Figure 5: ESD Clamping(8kV Contact per IEC 61000-4-2)

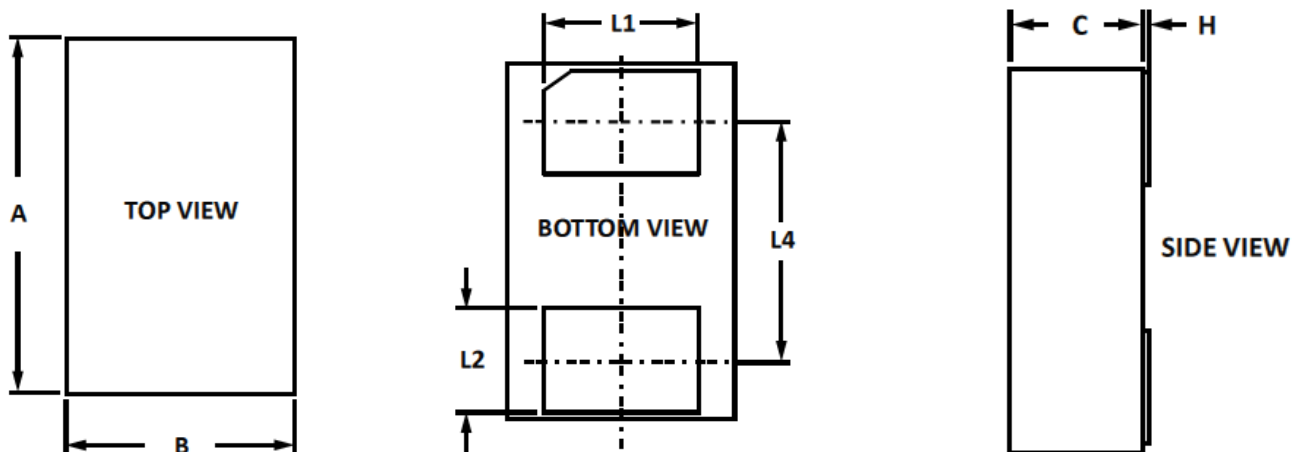


PACKAGE OUTLINE & DIMENSIONS

YSESDC05CP

DEVICE OUTLINE

| Outline Dimension | | | | |
|-------------------|-------------|-------|--------|-------|
| Symbol | Millimeters | | Inches | |
| | Min | Max | Min | Max |
| A | 0.95 | 1.05 | 0.037 | 0.041 |
| B | 0.55 | 0.65 | 0.022 | 0.026 |
| C | 0.42 | 0.58 | 0.016 | 0.022 |
| H | 0.01 | 0.07 | 0.000 | 0.003 |
| L1 | 0.275 | 0.325 | 0.011 | 0.013 |
| L2 | 0.275 | 0.325 | 0.011 | 0.013 |
| L4 | 0.675 | 0.725 | 0.027 | 0.029 |



| Layout PAD Dimension | | | | |
|----------------------|-------------|------|--------|-------|
| Symbol | Millimeters | | Inches | |
| | Min | Max | Min | Max |
| A | 1.3 | 1.5 | 0.051 | 0.059 |
| B | 0.5 | 0.6 | 0.02 | 0.024 |
| C | 0.43 | 0.53 | 0.017 | 0.021 |

