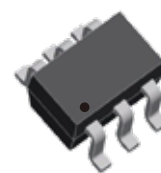


## FEATURES

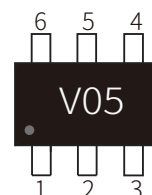
- 60W Peak Pulse Power ( $t_p=8/20\mu s$ )
- Protects four data lines and one Vcc line
- Low leakage current
- Low clamping voltage
- Each I/O pin can withstand over 1000 ESD strikes for  $\pm 8kV$  contact discharge

## APPLICATIONS

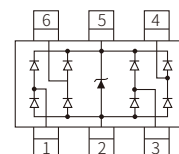
- Serial ATA
- MDDI Ports
- USB 2.0/3.0 Power and Data Line Protection
- Display Ports
- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interface (DVI)



SOT-23-6L



Marking



Schematic Symbol

## IEC COMPATIBILITY

- IEC61000-4-2 (ESD)  $\pm 25kV$  (air),  $\pm 20kV$  (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)

## APPROVALS

- RoHS** Compliance with 2011/65/EU
- HF** Compliance with IEC61249-2-21:2003

## THERMAL CONSIDERATIONS

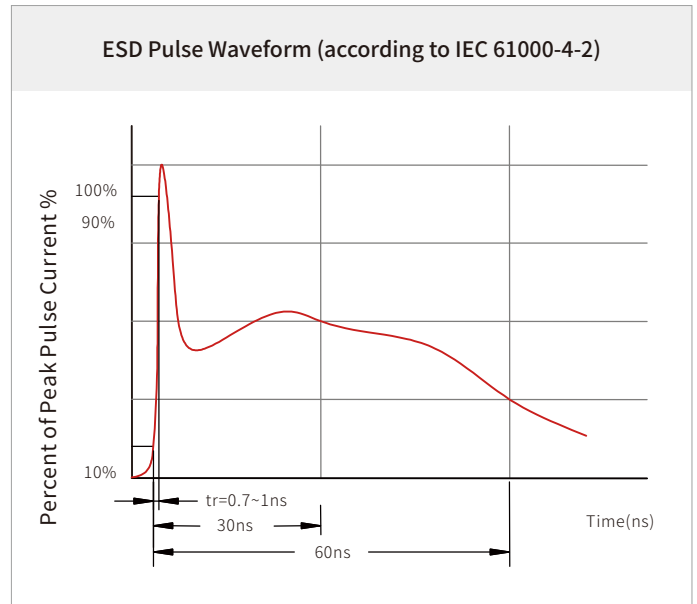
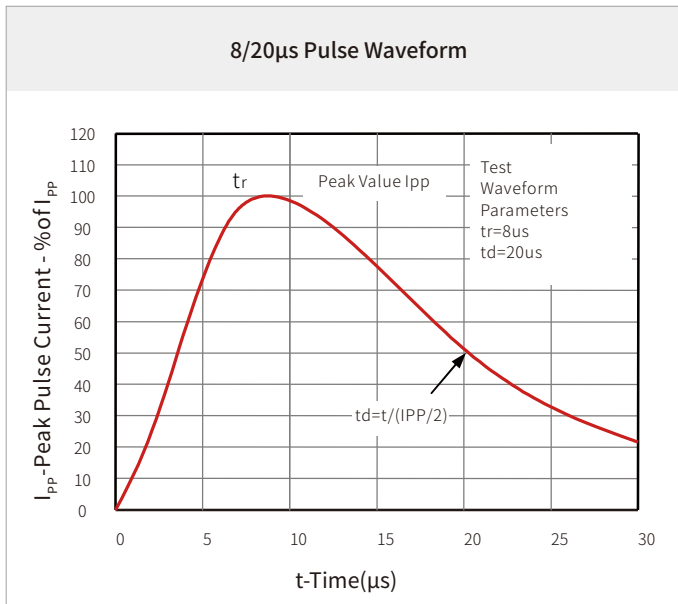
| Symbol    | Parameter                                    | Value           | Unit        |
|-----------|----------------------------------------------|-----------------|-------------|
| $P_{pp}$  | Peak Pulse Power ( $t_p=8/20\mu s$ waveform) | 60              | Watts       |
| $T_J$     | Operating Temperature Range                  | $-55 \sim +125$ | $^{\circ}C$ |
| $T_{STG}$ | Storage Temperature Range                    | $-55 \sim +150$ | $^{\circ}C$ |

## ELECTRICAL CHARACTERISTICS

| Symbol    | Parameter                      | Condition                                        | Min. | Typ. | Max. | Unit    |
|-----------|--------------------------------|--------------------------------------------------|------|------|------|---------|
| $V_{RWM}$ | Reverse Stand-off Voltage      |                                                  |      |      | 5    | V       |
| $V_{BR}$  | Reverse Breakdown Voltage      | $I_T=1mA$                                        | 6    |      |      | V       |
| $I_R$     | Reverse Leakage Current        | $V_{RWM}=5V$                                     |      |      | 1    | $\mu A$ |
| $V_C$     | Clamping Voltage               | $I_{pp}=1A, t_p=8/20\mu s$<br>Any I/O pin to GND |      |      | 10   | V       |
| $V_C$     | Clamping Voltage               | $I_{pp}=4A, t_p=8/20\mu s$<br>Any I/O pin to GND |      |      | 15   | V       |
| $V_C$     | Clamping Voltage               | $I_{pp}=4A, t_p=8/20\mu s$<br>Vcc pin to GND     |      |      | 15   | V       |
| $I_{pp}$  | Peak Pulse Current             | $t_p=8/20\mu s$                                  |      |      | 4    | A       |
| $C_J$     | Off State Junction Capacitance | $V_R=0V, f=1MHz$<br>Between I/O and I/O          |      | 0.13 |      | pF      |
| $C_J$     | Off State Junction Capacitance | $V_R=0V, f=1MHz$<br>Between I/O and GND          |      | 0.38 |      | pF      |
| $C_J$     | Off State Junction Capacitance | $V_R=0V, f=1MHz$<br>Between Vcc and GND          |      | 0.7  |      | pF      |

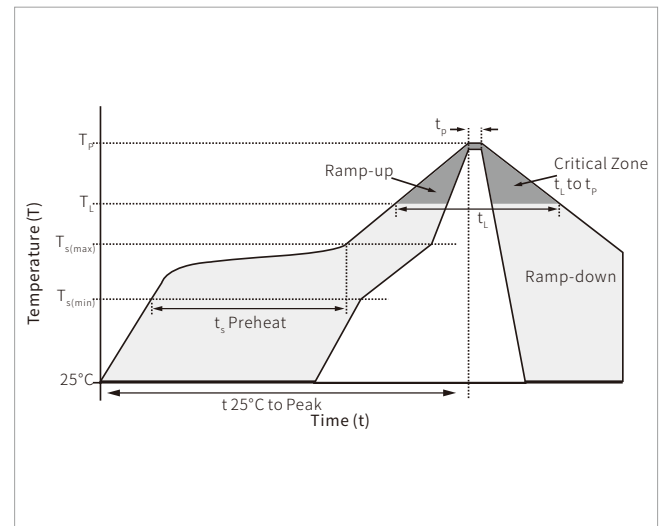
Note: I/O Pins are pin 1,3,4,6. Pin 5 is Vcc. Pin 2 is GND

## CHARACTERISTIC CURVES

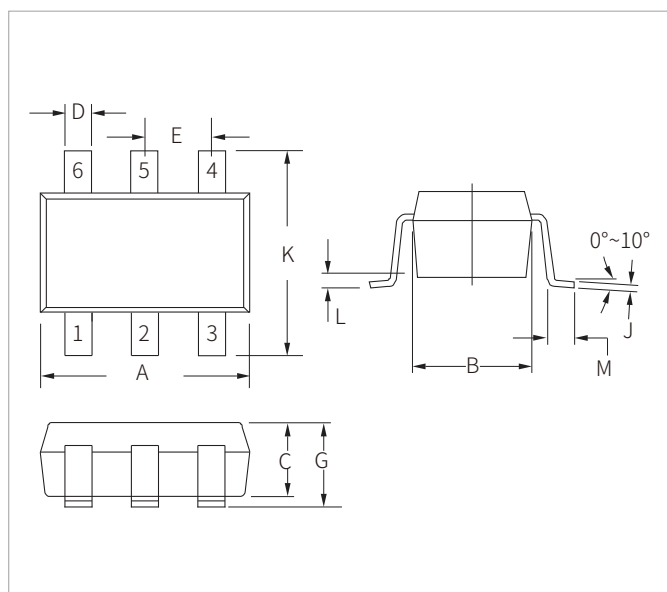


## SOLDERING PARAMETERS

| Reflow Condition                                      |                                  | Lead-free assembly |
|-------------------------------------------------------|----------------------------------|--------------------|
| Pre Heat                                              | Temperature Max ( $T_{s(min)}$ ) | 150°C              |
|                                                       | Temperature Max ( $T_{s(max)}$ ) | 200°C              |
|                                                       | Time (min to max) ( $t_s$ )      | 60 – 180 secs      |
| Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak |                                  | 3°C/second max     |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                  |                                  | 3°C/second max     |
| Reflow                                                | Temperature ( $T_L$ ) (Liquidus) | 217°C              |
|                                                       | Time (min to max) ( $t_L$ )      | 60 – 150 seconds   |
| Peak Temperature ( $T_p$ )                            |                                  | 260°C              |
| Time within 5°C of actual peak Temperature ( $t_p$ )  |                                  | 20 – 40 seconds    |
| Ramp-down Rate                                        |                                  | 6°C/second max     |
| Time 25°C to peak Temperature ( $T_p$ )               |                                  | 8 minutes max.     |
| Do not exceed                                         |                                  | 260°C              |

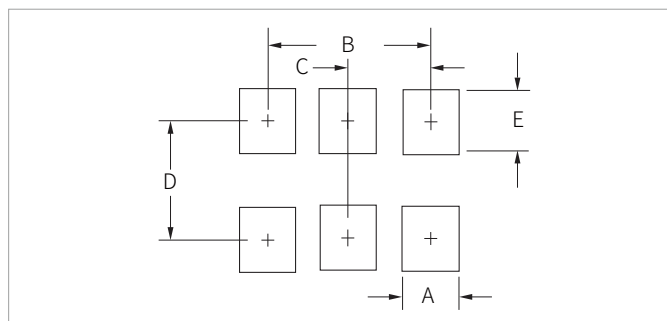


## SOT-23-6L PACKAGE INFORMATION



| Ref. | Millimeters |      | Inches |       |
|------|-------------|------|--------|-------|
|      | Min.        | Max. | Min.   | Max.  |
| A    | 2.80        | 3.10 | 0.110  | 0.125 |
| B    | 1.50        | 1.80 | 0.059  | 0.071 |
| C    | 0.90        | 1.30 | 0.036  | 0.051 |
| D    | 0.25        | 0.50 | 0.010  | 0.020 |
| E    | 0.85        | 1.05 | 0.033  | 0.040 |
| G    | 0.90        | 1.45 | 0.036  | 0.057 |
| J    | 0.09        | 0.20 | 0.003  | 0.008 |
| K    | 2.60        | 3.00 | 0.102  | 0.118 |
| L    | 0.0         | 0.15 | 0.0    | 0.006 |
| M    | 0.30        | 0.60 | 0.012  | 0.024 |

## RECOMMENDED PAD LAYOUT DIMENSIONS



| Ref. | Millimeters | Inches  |
|------|-------------|---------|
|      | Nominal     | Nominal |
| A    | 0.70        | 0.028   |
| B    | 1.90        | 0.074   |
| C    | 0.95        | 0.037   |
| D    | 2.40        | 0.094   |
| E    | 1.00        | 0.039   |

## ORDERING INFORMATION

| Part Number   | Component Package | QTY/Reel | Reel Size |
|---------------|-------------------|----------|-----------|
| SE26T06U5.0UD | SOT-23-6L         | 3000PCS  | 7"        |

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