

## Low Capacitance Bidirectional TVS/ESD Protection Diode

### Features

- ESD per IEC 61000-4-2 ±30 kV (Contact)
- ESD per IEC 61000-4-2 ±30 kV (Air)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- Peak power dissipation: 400W (8/20μs)
- Protects one Vcc or data line
- Low clamping voltage
- Working voltages : 5V
- Low leakage current
- Low capacitance
- Lead free in comply with EU RoHS 2011/65/EU directives



### Mechanical Data

- Case:SOD-523
- Flammability Rating: UL 94V-0

### Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Networking and Telecom
- Serial and Parallel Ports
- Peripherals

### Ordering Information

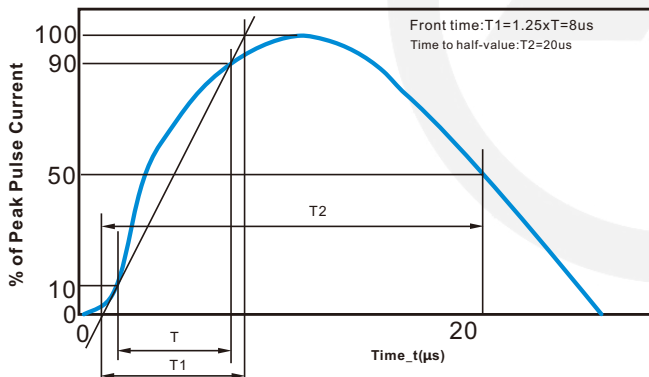
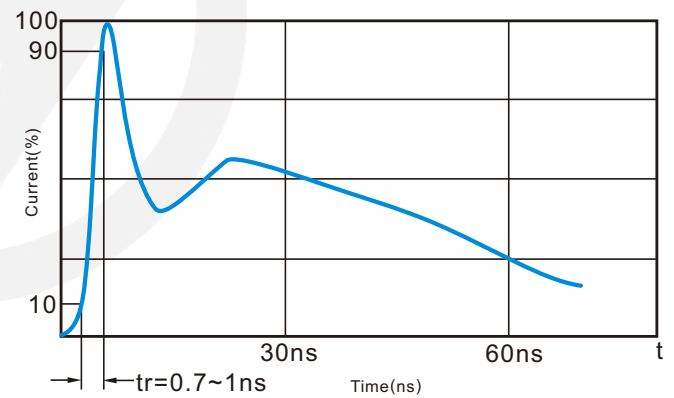
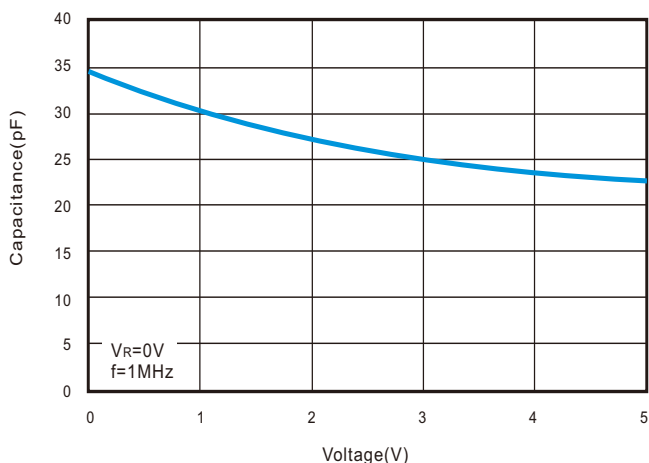
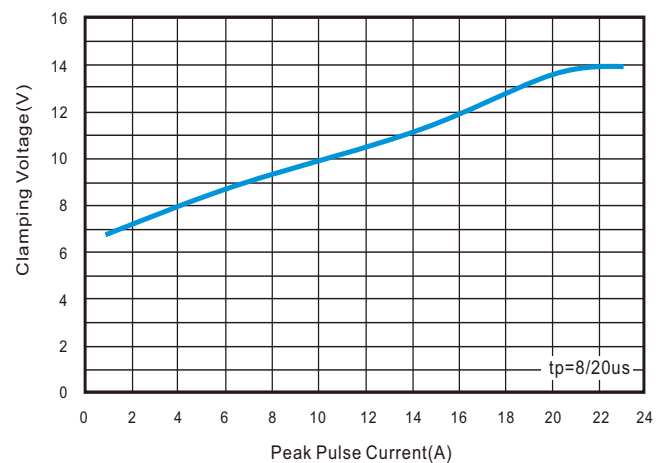
Part Number	Marking	Shipping	Reel
LTE5L05C01G-TR3	OC	3000PCS Tape&Reel	7 inches
LTE5L05C01G-TR10	OC	10000PCS Tape&Reel	7 inches

### Absolute Maximum Rating (TA=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V <sub>ESD</sub>	ESD per IEC 61000-4-2 (Contact)	±30	kV
	ESD per IEC 61000-4-2 (Air)	±30	
P <sub>PP</sub>	Peak Pulse Power (8/20μs)	400	W
T <sub>OPT</sub>	Operating Temperature	-55~150	°C
T <sub>STG</sub>	Storage Temperature	-55~150	°C

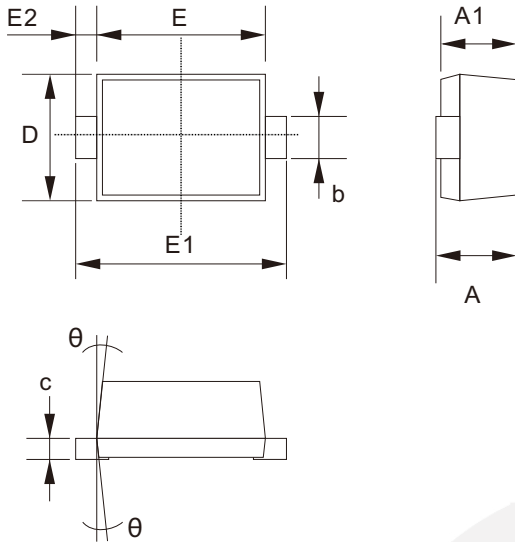
**Electrical Characteristics** (TA=25°C unless otherwise specified)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
$V_{RWM}$	Reverse Working Voltage				5.0	V
$V_{BR}$	Reverse Breakdown Voltage	$I_T = 1mA$	5.8		7.8	V
$I_R$	Reverse Leakage Current	$V_{RWM} = 5V$			1.0	$\mu A$
$V_C$	Clamping Voltage	$I_{PP} = 1A, t_p = 8/20\mu s$			9.8	V
$V_C$	Clamping Voltage	$I_{PP} = 20A, t_p = 8/20\mu s$		15	20	V
$C_J$	Junction Capacitance	$V_R = 0V, f = 1MHz$		33	40	pF

**Characteristics Curve**
**Fig.1 8x20us Waveform per IEC61000-4-5**

**Fig.2 Contact Discharge Current Waveform per IEC 61000-4-2**

**Fig.3 Voltage vs Capacitance**

**Fig.4 Clamping Voltage vs Peak Pulse Current**


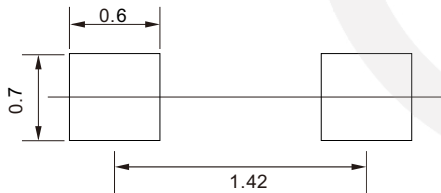
**SOD-523 Package Outline**

Unit: mm



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.500	0.770
A1	0.500	0.700
b	0.250	0.380
c	0.070	0.200
D	0.700	0.900
E	1.100	1.300
E1	1.500	1.700
E2	0.200 REF	
$\theta$	7° REF	

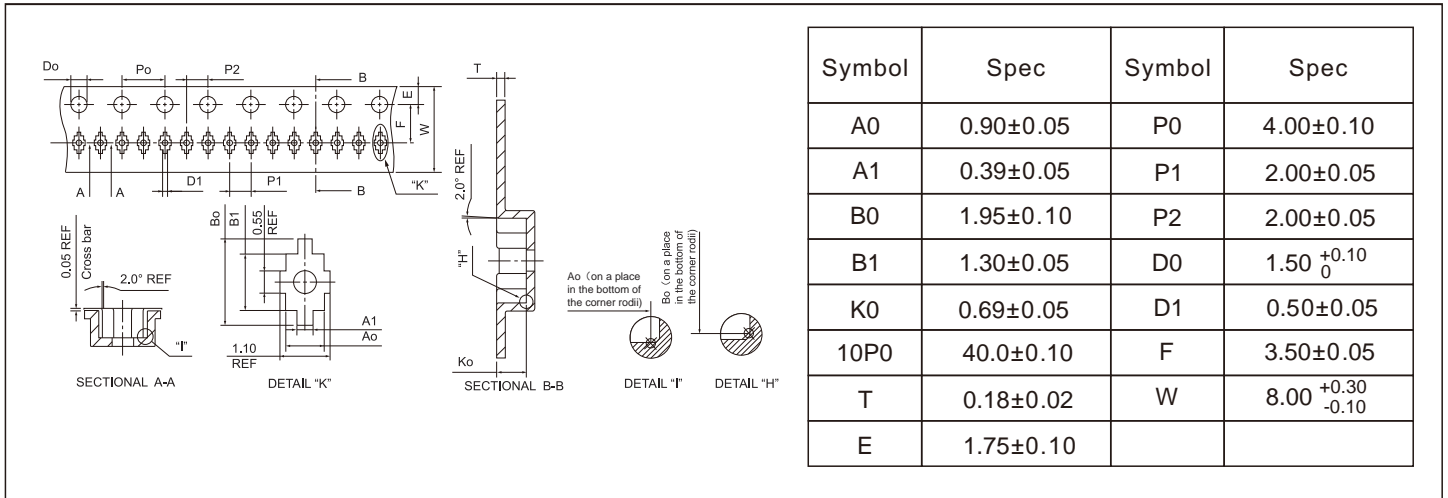
**SOD-523 Suggested Pad Layout**



- Note:
1. Controlling dimension: in millimeters.
  2. General tolerance:  $\pm 0.05$  mm.
  3. The pad layout is for reference purposes only.

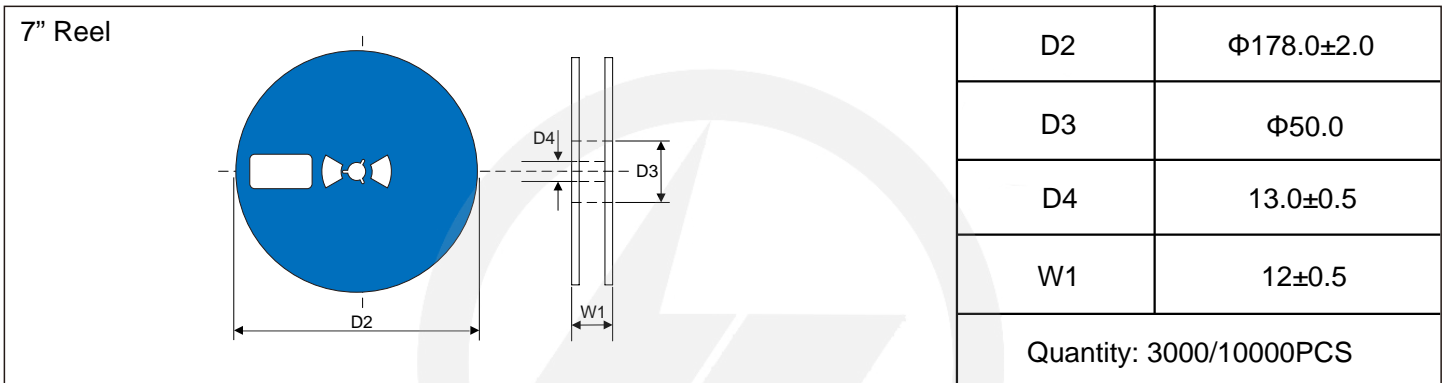
**Carrier Tape Dimensions**

Unit : mm

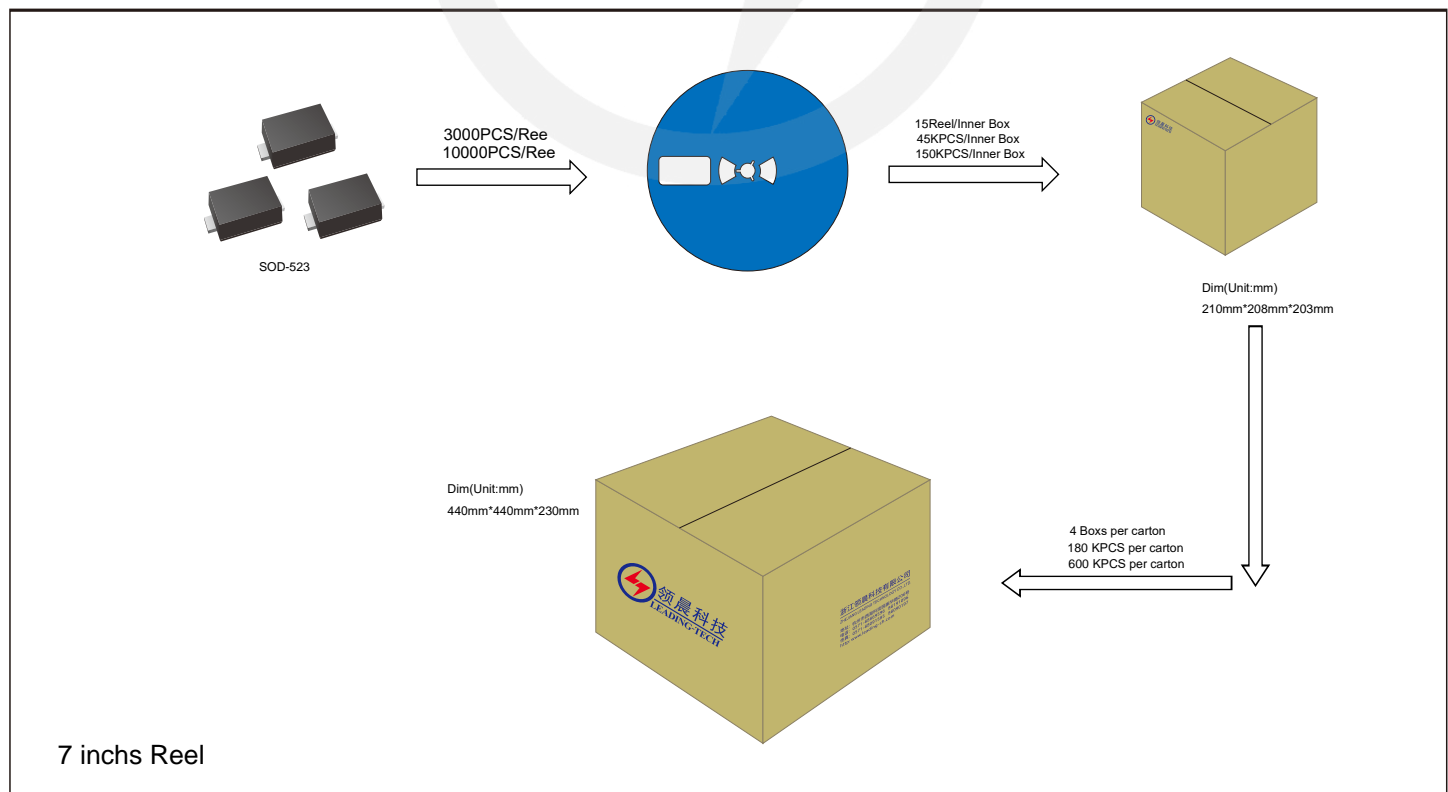


**Reel Dimensions**

Unit : mm

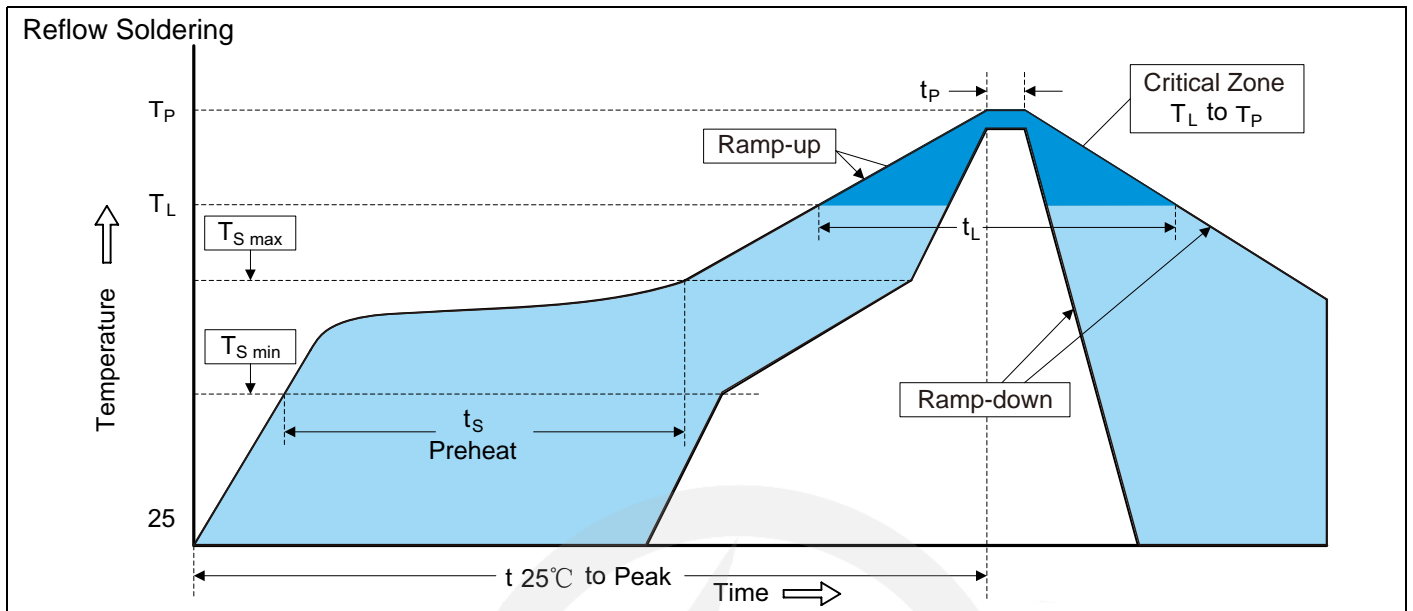


**Packaging**





**Recommended Soldering Conditions**



**Recommended Conditions**

Profile Feature	Pb-Free Assembly
Average ramp-up rate ( $T_L$ to $T_P$ )	3°C/second max.
Preheat	
-Temperature Min ( $T_{S\ min}$ )	150°C
-Temperature Max ( $T_{S\ max}$ )	200°C
-Time (min to max) ( $t_s$ )	60-180 seconds
$T_{S\ max}$ to $T_L$	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature ( $T_L$ )	217°C
-Time ( $t_L$ )	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	8 minutes max.

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## Version Update Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision content	Revision Reason	Revision Person	Note
01	2024.10.2	2024.10.2	3.0	New File	/	Ding	