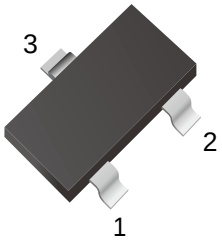
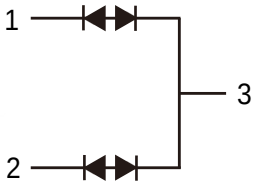
LTE23TxxC02

Bi-directional TVS Diode Array

Features



- IEC61000-4-2 (ESD) ±30kV (Contact)
  ±30kV (Air)
- IEC61000-4-4 (EFT) 40A (5/50ηs)
- 350 Watts Peak Pulse Power per (tp=8/20μs)
- Protects two bidirectional lines
- Low clamping voltage
- Working voltages: 3.3V to 36V
- Low leakage current
- Lead free in comply with EU RoHS 2011/65/EU directives
- Moisture Sensitivity Level1



Machanical Data

- Case:SOT-23
- 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	Shipping	Reel
LTE23TxxC02-TR3	3000PCS Tape&Reel	7 inchs
LTE23TxxC02-TR12	12000PCS Tape&Reel	13 inchs

Absolute Maximum Rating

Symbol	Parameter	Value	Unit
V_{ESD}	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	±30 ±30	kV
P_{PP}	Peak Pulse Power (8/20μs)	350	W
T_{OPT}	Operating Temperature	-55/+150	°C
T_{STG}	Storage Temperature	-55/+150	°C
T_L	Lead Soldering Temperature	260 (10 sec.)	°C

Electrical Characteristics (Tamb=25°C)

PART NUMBER	DEVICE MARKING	V_{RWM} (V) (max.)	V_B (V) (min.)	I_T (mA)	V_C@1A (V) (max.)	V_C (V) (max.)	(@A)	I_R (μA) (max.)	C_J (pF) (max.)
LTE23T03C02	C03	3.3	4.0	1	7.5	16.0	20	40	450
LTE23T05C02	C05	5.0	6.0	1	9.8	18.0	17	10	200
LTE23T08C02	C08	8.0	8.5	1	13.4	24.0	15	2	120
LTE23T12C02	C12	12.0	13.3	1	19.0	32.0	11	1	75
LTE23T15C02	C15	15.0	16.7	1	24.0	38.0	10	1	68
LTE23T18C02	C18	18.0	20.0	1	29.0	45.0	9	1	57
LTE23T20C02	C20	20.0	22.3	1	35.0	50.0	8	1	52
LTE23T24C02	C24	24.0	26.7	1	43.0	52.0	7	1	50
LTE23T36C02	C36	36.0	40.0	1	60.0	75.0	4.5	1	35

Characteristic Curves

Fig.1 8x20μs Waveform per IEC61000-4-5

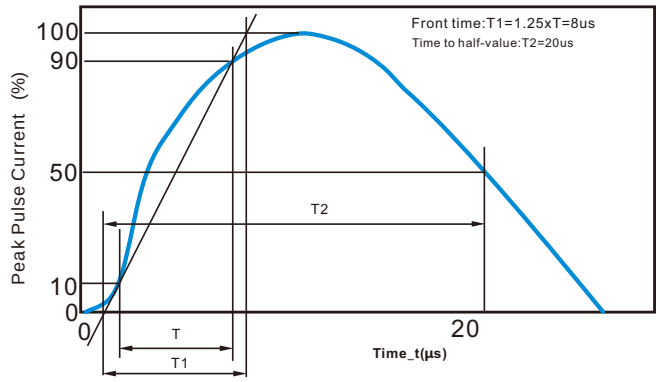


Fig.2 Contact Discharge Current Waveform per IEC 61000-4-2

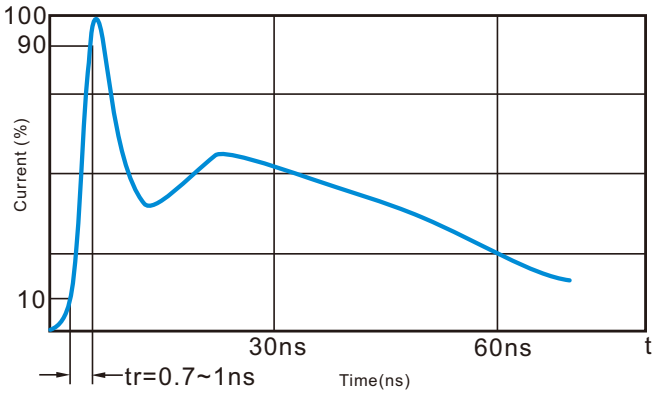


Fig.3 Voltage vs Capacitance

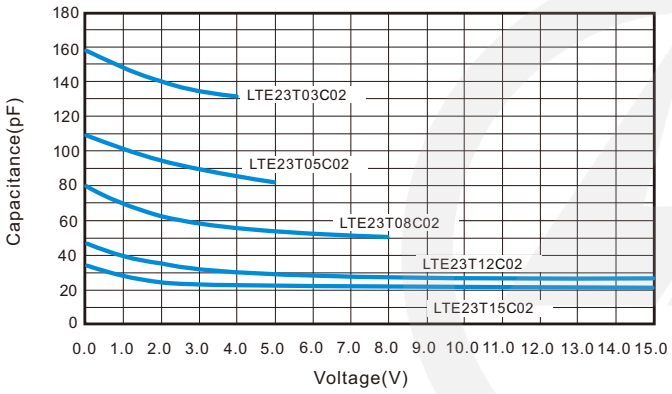


Fig.4 Voltage vs Capacitance

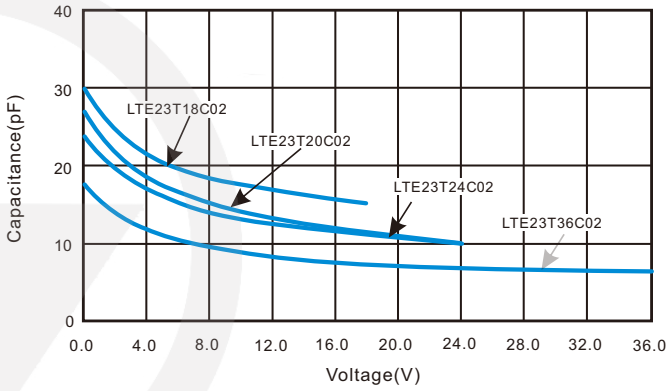


Fig.5 Clamping Voltage vs. Peak Pulse Current

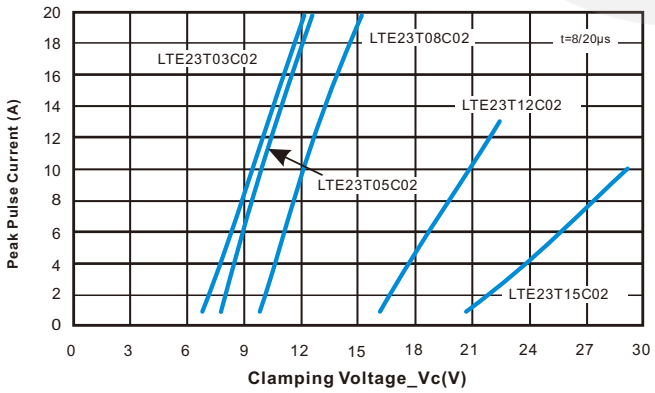
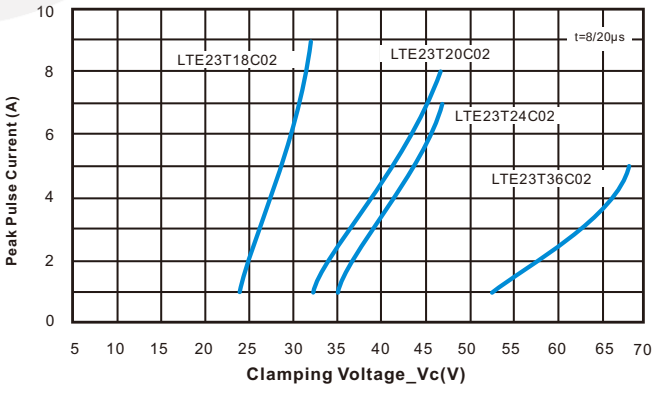
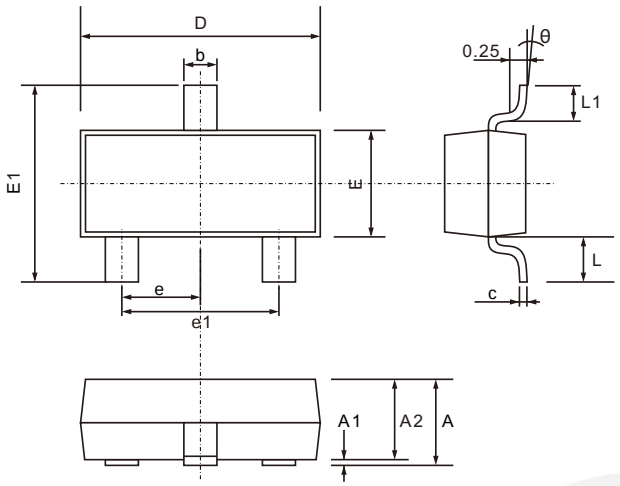


Fig.6 Clamping Voltage vs. Peak Pulse Current



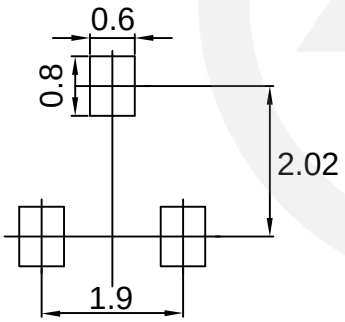
SOT-23 Package Outline

Unit : mm



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.200
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.200
D	2.700	3.100
E	1.200	1.400
E1	2.200	2.600
e	0.950 TYP.	
e1	1.750	2.050
L	0.550 TYP.	
L1	0.300	0.500
θ	0°	8°

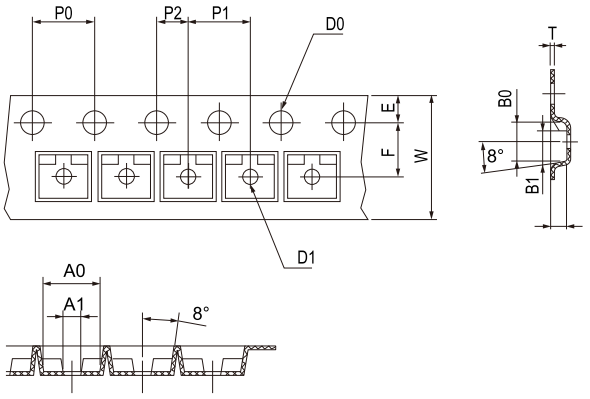
SOT-23 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm
3.The pad layout is for reference purpose only.

Carrier Tape Dimensions

Unit：mm

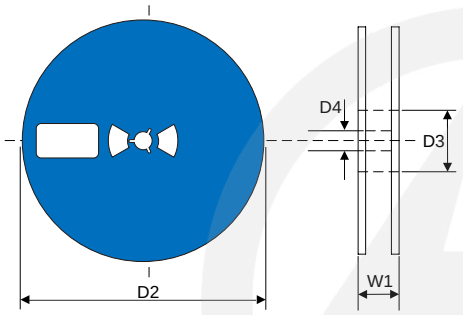


Symbol	Spec	Symbol	Spec
A0	3.15±0.10	P0	4.00±0.05
A1	1.09±0.10	P1	4.00±0.02
B0	2.77±0.10	W	8.00±0.10
B1	2.15±0.10	E	1.75±0.10
K0	1.22±0.10	F	3.50±0.05
D0	1.50±0.10	T	2.00±0.10
D1	1.00±0.10		

Reel Dimensions

Unit：mm

7” Reel

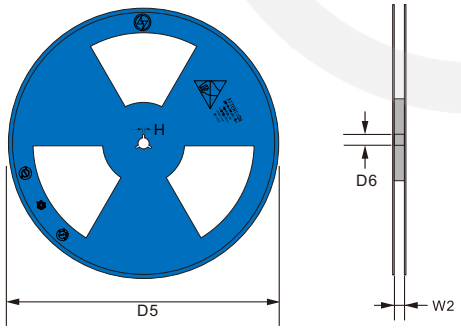


D2	Φ178.0±2.0
D3	Φ50
D4	13.0±0.5
W1	12±0.5
Quantity: 3000PCS	

Reel Dimensions

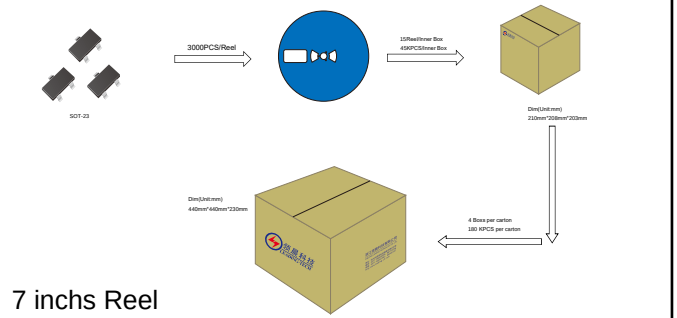
Unit：mm

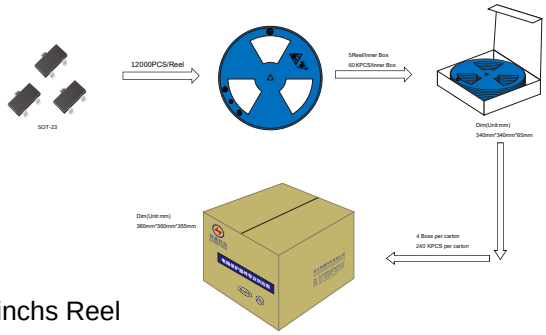
13” Reel



D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 12000PCS	

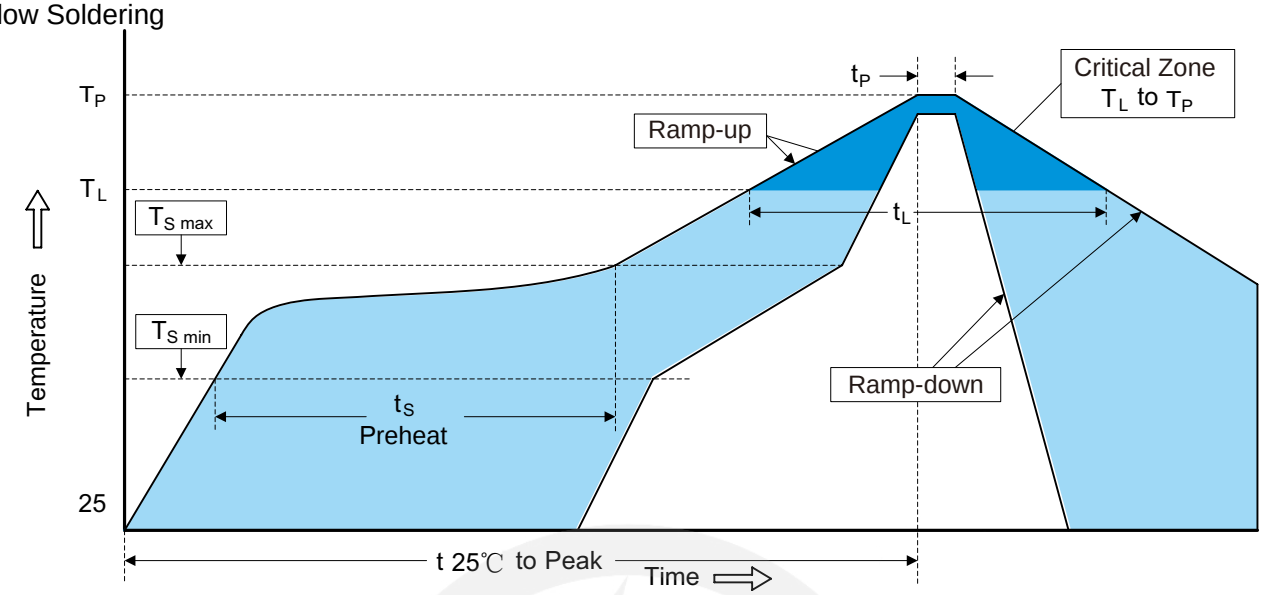
Packaging





Recommended Soldering Conditions

Reflow Soldering



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_S)	 150℃ 200℃ 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	 3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ 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	2024.03.20	2024.03.20	3.0	New file	/	Ding	
02	2025.06.17	2025.06.17	3.1	Update packaging information	/	Ding	
03	2026.03.04	2026.03.04	3.2	Package outline E1(max)=2.6mm	/	Ding	