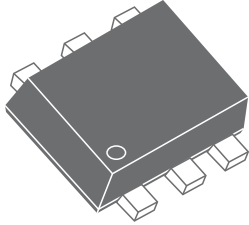
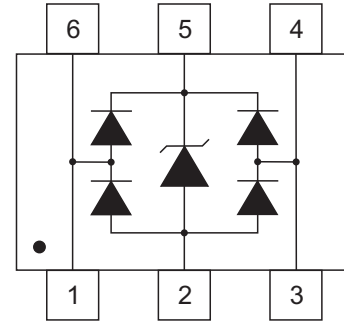


Electro-Static Discharge TUSD05M2U Uni-Direction TVS Diode

SOT-563



Pin Configuration



Features

- Uni-directional ESD protection of two lines
- Low capacitance: 0.8pF(Max)
- Low reverse stand-off voltage: 5V
- Low reverse clamping voltage
- Low leakage current
- Excellent package: 2.10mm×1.25mm×0.96mm
- Fast response time
- IEC 61000-4-2 Level 4 ESD protection

IEC Compatibility

- IEC61000-4-2 (ESD) ±25kV (air), ±25kV (contact)
- IEC61000-4-5 (Lightning) 3.5A (8/20μs)

Applications

- USB3.0 power & data line protection
- WLAN/LAN equipment
- Mobile phone
- Video line protection
- Microcontroller input Protection
- ISDN S/T Interface
- Other electronics equipments Communication systems

Mechanical Characteristics

- JEDEC SOT-553 Package
- Molding Compound Flammability Rating: UL 94V-O
- Quantity Per Reel: 3000pcs
- Reel Size: 7 inch
- Lead Finish: Lead Free

Maximum Ratings($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Units
Peak Pulse Power($t_p=8/20\mu\text{s}$)	P_{PP}	90	Watts
Lead Soldering Temperature	T_L	260(10 sec.)	$^{\circ}\text{C}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55~150	$^{\circ}\text{C}$

Electrical Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise specified)

TUSD05M2U(Marking:U5N2)		(I/O to GND&VCC to GND)			
Parameter	Symbol	Conditions	Min.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}			5	V
Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	6	10	V
		$I_T=1\text{mA}(V_{CC} \text{ to GND})$	5	12	V
Reverse Leakage Current	I_R	$V_{RWM}=5\text{V}$		1	μA
Forward Voltage	V_F	$I_F=10\text{mA}$	0.4	1.5	V
Clamping Voltage	V_C	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$		13	V
		$I_{PP}=3.5\text{A}, t_p=8/20\mu\text{s}$		25	V
Junction Capacitance	C_J	$V_R=0\text{V}, f=1\text{MHZ}$		0.8	pF
		$V_R=0\text{V}, f=1\text{MHZ}(I/O \text{ to } I/O)$		0.4	pF

Typical Characteristics

Fig.1 Forward Characteristics

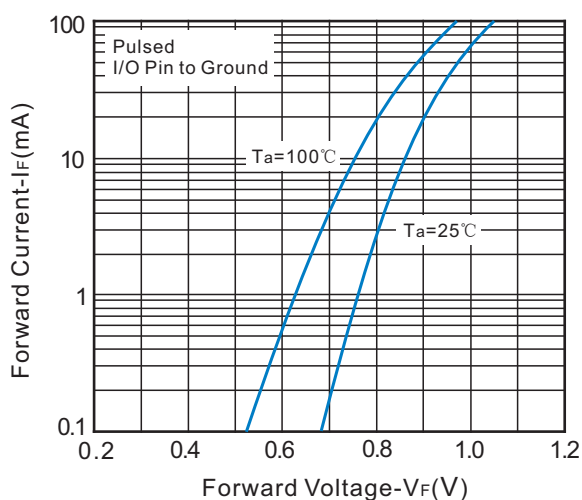
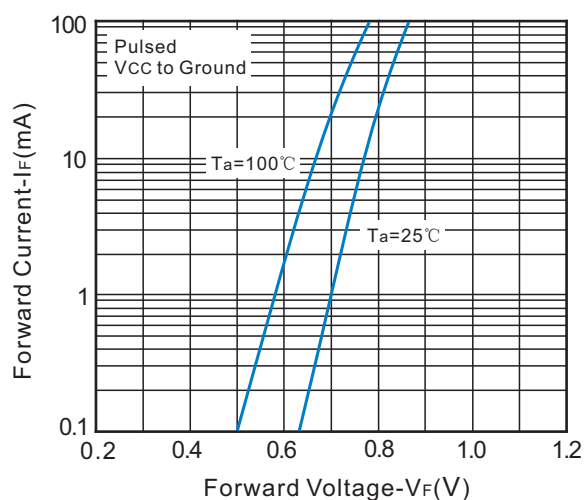


Fig.2 Forward Characteristics



Typical Characteristics

Fig.3 Reverse Characteristics

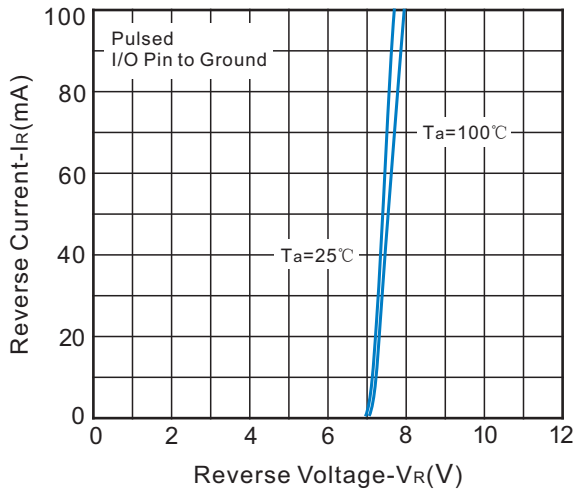


Fig.4 Reverse Characteristics

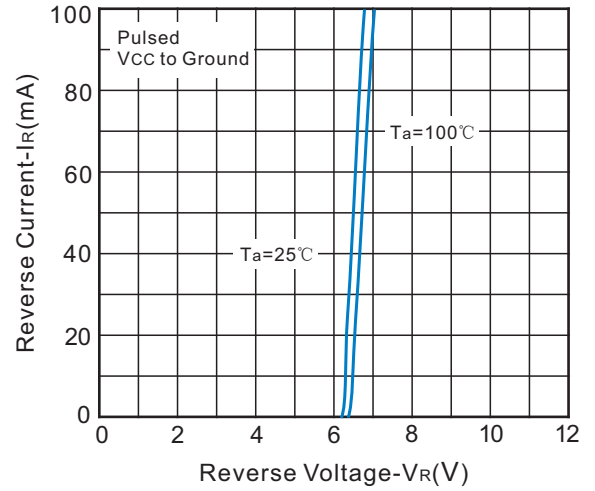


Fig.5 V_C-I_{PP}

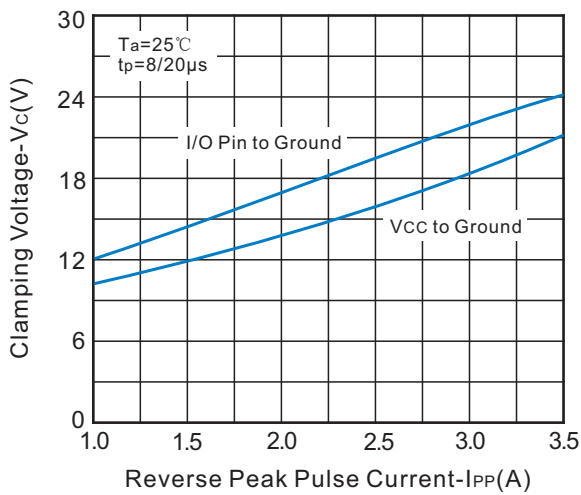
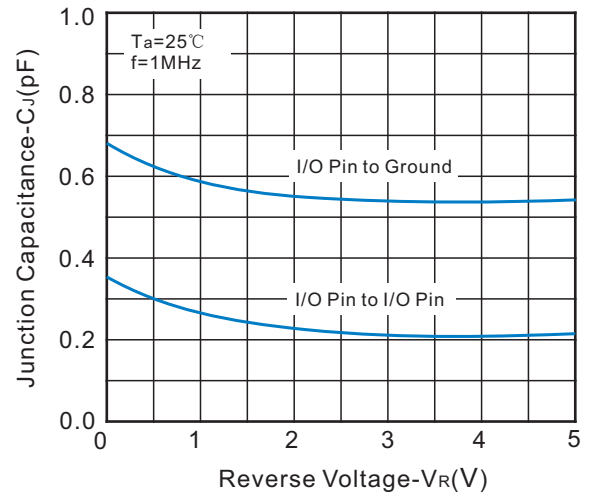
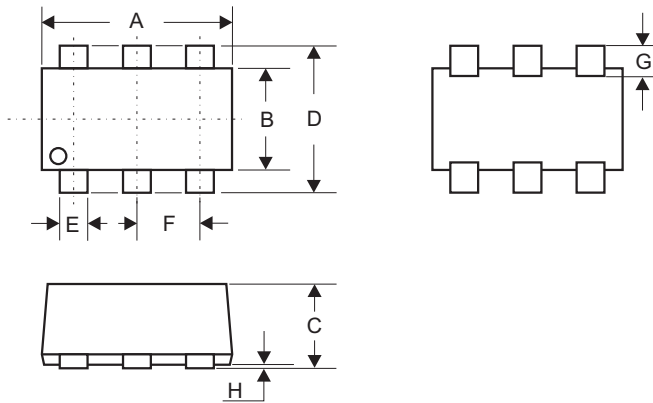


Fig.6 Capacitance Characteristics



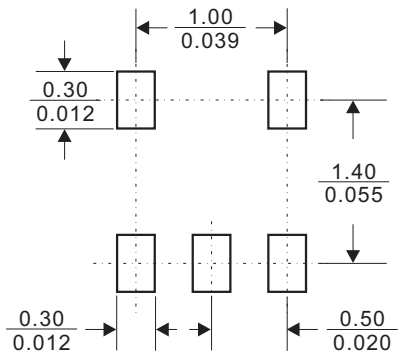
Dimensions(SOT-563)

SOT-563



DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	1.50	1.70	0.059	0.067
B	1.10	1.30	0.043	0.051
C	0.52	0.60	0.020	0.024
D	1.50	1.70	0.059	0.067
E	0.17	0.27	0.007	0.011
F	0.45	0.55	0.018	0.022
G	0.20	0.40	0.008	0.016
H	0.00	0.050	0.000	0.002

Recommended Mounting Pad Layout



Dimensions in ($\frac{\text{millimeters}}{\text{inches}}$)