



MESD5V0T4C6R0

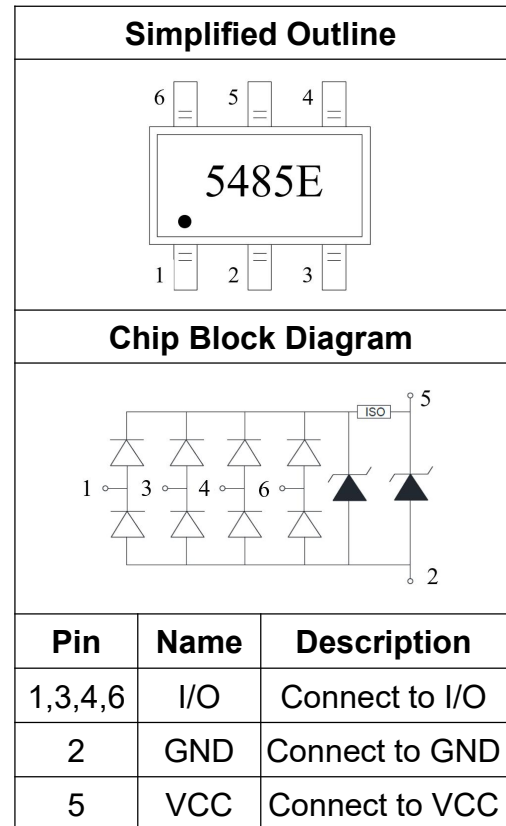
Deep Snap Back ESD

Features

- ◆ IEC 61000-4-2 Level 4 ESD Protection
 - $\pm 30\text{kV}$ Air Discharge
 - $\pm 30\text{kV}$ Contact Discharge
- ◆ Peak Pulse Power Capability: 100W (Pin1,3,4,6 to Pin2)
- ◆ Peak Pulse Power Capability: 400W (Pin5 to Pin2)
- ◆ Peak Pulse Current Capability: 14A (Pin1,3,4,6 to Pin2)
- ◆ Peak Pulse Current Capability: 27A (Pin5 to Pin2)
- ◆ Working Voltage: 5.0V
- ◆ Low Clamping Voltage: 5.6V
- ◆ Low Junction Capacitance: 0.70pF
- ◆ Protecting Four Unidirectional Lines

Applications

- ◆ USB 2.0
- ◆ 10/100/1000 Ethernet
- ◆ SIM Ports and ATM Interface
- ◆ Monitors, Notebook Computers and Flat Panel Displays



Ordering Information

Part Number	Marking	Package	Reel	Inner Box	Outer Carton
MESD5V0T4C6R0	5485E	SOT23-6L	3000 Pcs	10 Reels	4 Boxes

Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ Unless Otherwise Noted

Symbol	Parameter		Min.	Max.	Unit
P_{pk}	Peak Pulse Power	IEC 61000-4-5; $t_p = 8/20\mu\text{s}$; Pin1,3,4,6 to Pin2	-	100	W
		IEC 61000-4-5; $t_p = 8/20\mu\text{s}$; Pin5 to Pin2	-	400	
I_{pp}	Peak Pulse Current	IEC 61000-4-5; $t_p = 8/20\mu\text{s}$; Pin1,3,4,6 to Pin2	-	14	A
		IEC 61000-4-5; $t_p = 8/20\mu\text{s}$; Pin5 to Pin2	-	27	
V_{ESD}	ESD	IEC 61000-4-2 Air Discharge	-	± 30	kV
		IEC 61000-4-2 Contact Discharge	-	± 30	



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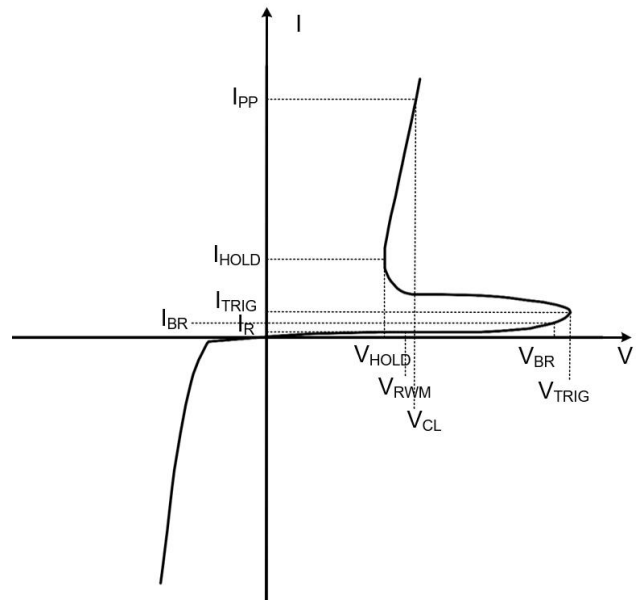
Symbol	Parameter	Min.	Max.	Unit
T _J	Junction Temperature	-	150	°C
T _L	Lead Temperature	-	260	
T _{OP}	Operating Temperature	- 40	125	
T _{STG}	Storage Temperature	- 55	150	

Electrical Characteristics T_A = 25°C Unless Otherwise Noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
V _{RWM}	Reverse Stand-off Voltage	-	-	-	5.0	V
V _{BR}	Reverse Breakdown Voltage	I _T = 1mA; I/O to GND	5.5	7.1	-	
		I _T = 1mA; VCC to GND	5.5	6.9	-	
V _{CL}	Clamping Voltage	I _{PP} = 1.0A; t _p = 8/20μs Pin1,3,4,6 to Pin2	-	1.5	2.5	
		I _{PP} = 14A; t _p = 8/20μs Pin1,3,4,6 to Pin2	-	5.6	6.5	
		I _{PP} = 1.0A; t _p = 8/20μs Pin5 to Pin2	-	7.5	9.5	
		I _{PP} = 27A; t _p = 8/20μs Pin5 to Pin2	-	12.5	15.0	
I _R	Reverse Leakage Current	V _{RWM} = 5.0V	-	-	100	nA
C _J	Junction Capacitance	V _R = 0V; f = 1MHz; I/O to GND	-	0.7	1.0	pF
		V _R = 0V; f = 1MHz; I/O to I/O	-	0.3	0.5	
		V _R = 0V; f = 1MHz; VCC to GND	-	220	250	

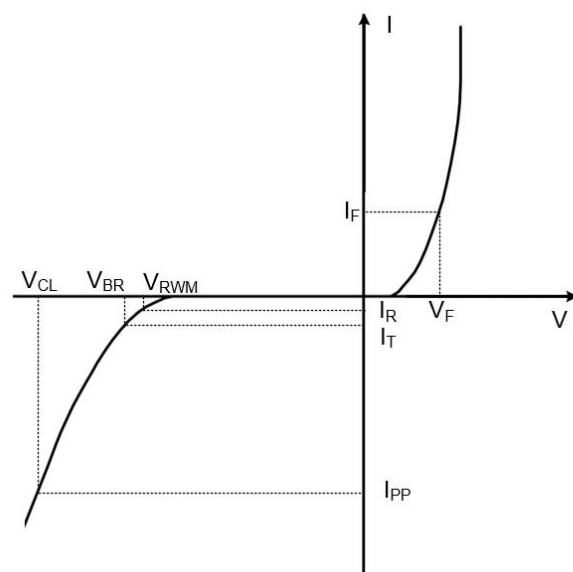
Definitions of Electrical Characteristics(Pin1,3,4,6 to Pin2)

Symbol	Parameter
V_{RWM}	Reverse Stand-off Voltage
V_{BR}	Reverse Breakdown Voltage
V_{CL}	Clamping Voltage
V_{TRIG}	Reverse Trigger Voltage
V_{HOLD}	Reverse Holding Voltage
I_R	Reverse Leakage Current
I_{BR}	Reverse Breakdown Current
I_{TRIG}	Reverse Trigger Current
I_{HOLD}	Reverse Holding Current
I_{PP}	Peak Pulse Current



Definitions of Electrical Characteristics(Pin5 to Pin2)

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
V_{BR}	Breakdown Voltage, @ I_T
V_{CL}	Clamping Voltage, @ I_{PP}
V_F	Forward Voltage, @ I_F
I_R	Reverse Leakage Current, @ V_{RWM}
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
I_F	Forward Current



■ Characteristic Curve

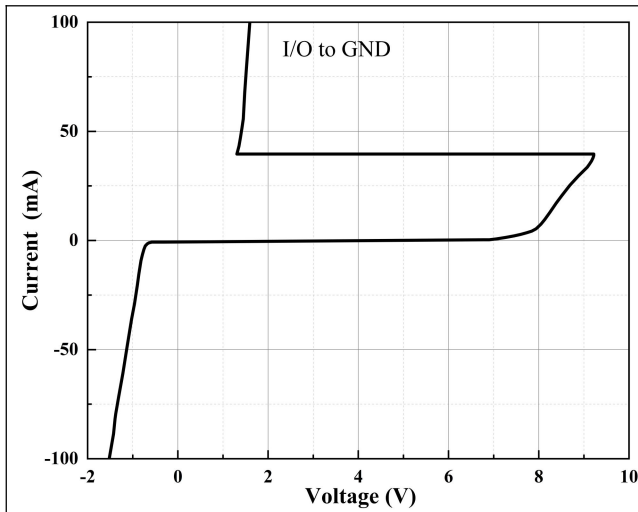


Figure 1. Current vs. Voltage (I/O to GND)

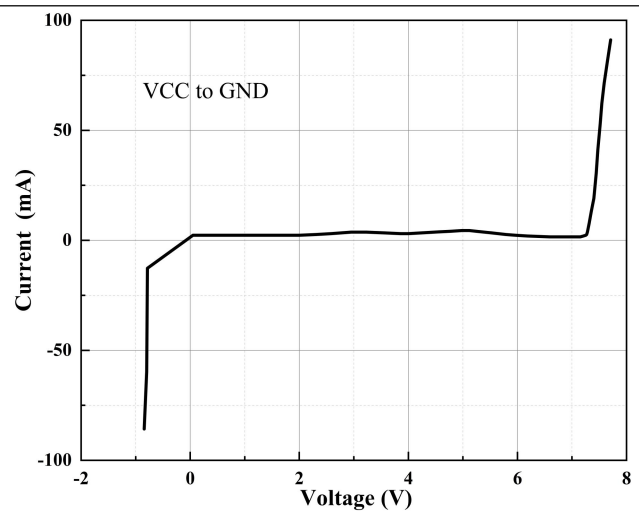


Figure 2. Current vs. Voltage (VCC to GND)

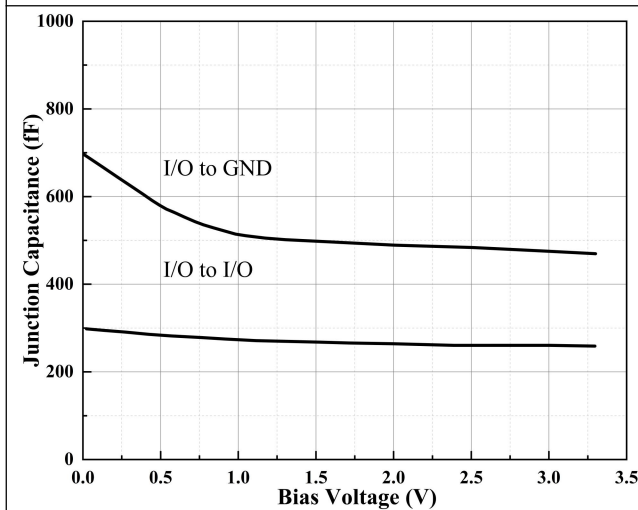


Figure 3. Junction Capacitance vs. Bias Voltage (I/O to I/O and I/O to GND)

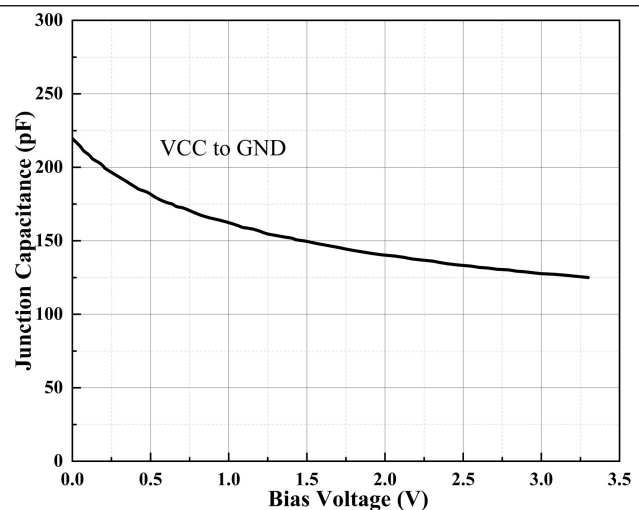


Figure 4. Junction Capacitance vs. Bias Voltage (VCC to GND)

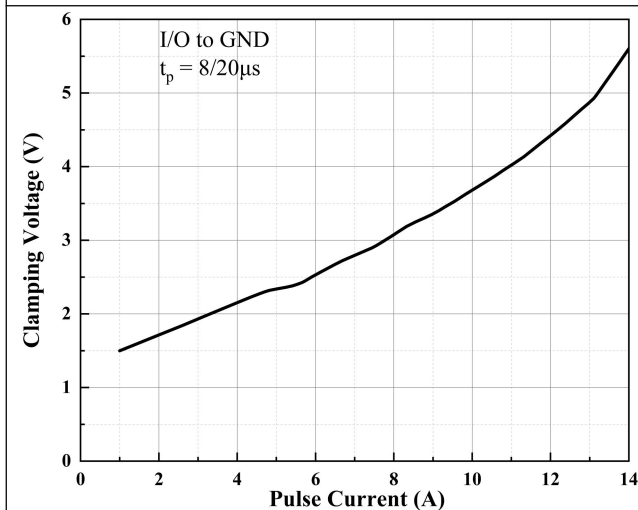


Figure 5. Clamping Voltage vs. Pulse Current (I/O to GND)

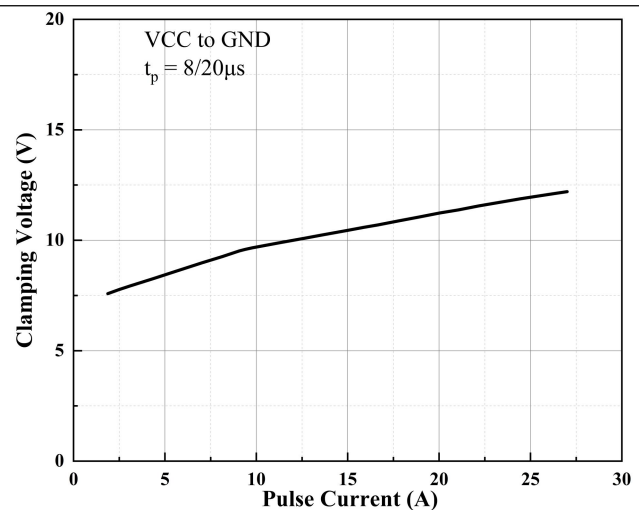


Figure 6. Clamping Voltage vs. Pulse Current (VCC to GND)



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■ Characteristic Curve

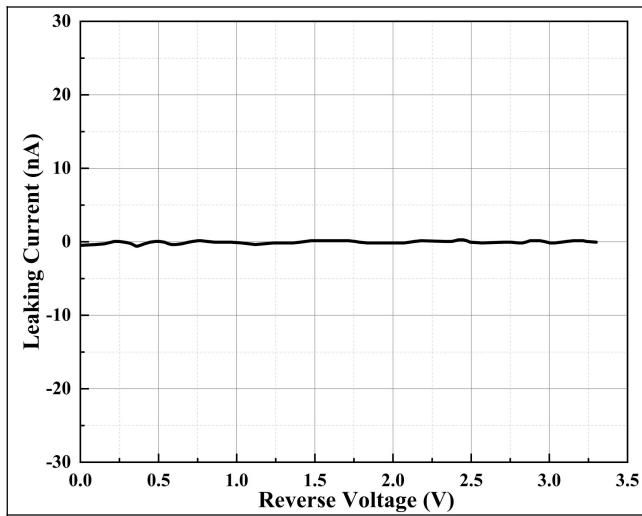


Figure 7. Leaking Current vs. Reverse Voltage

■ Measurement Wave According to IEC Standard

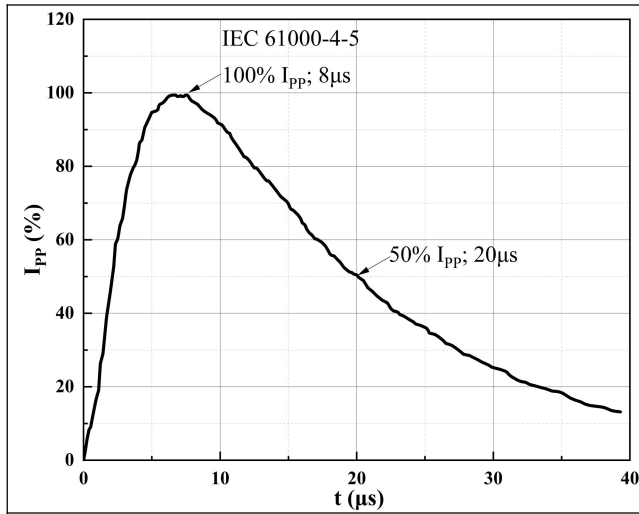


Figure 8. 8/20 μ s Pulse Waveform

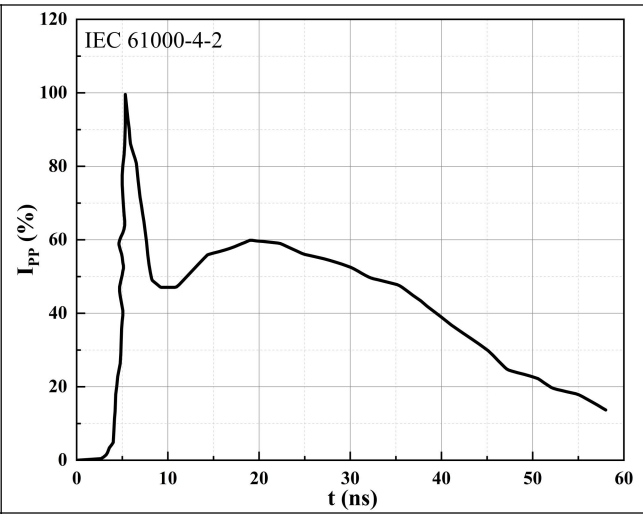
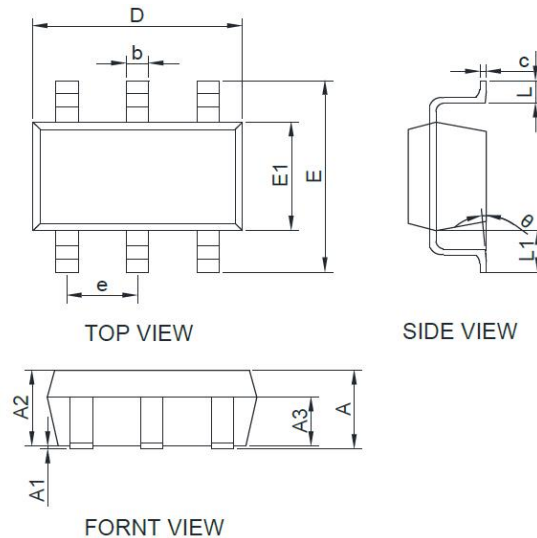


Figure 9. ESD Pulse Waveform

■ Package Information

SOT23-6L



Unit: mm

Symbol		A	A1	A2	A3	b	c	D
Spec	Min	1.000	0.000	1.000	0.500	0.300	0.100	2.700
	Max	1.300	0.110	1.200	0.800	0.500	0.250	3.100
Symbol		E	E1	e	L	L1	θ	
Spec	Min	2.600	1.500	0.850	0.300	0.550	0°	
	Max	3.000	1.800	1.050	0.600	0.700	8°	

■ Recommended Soldering Footprint

