

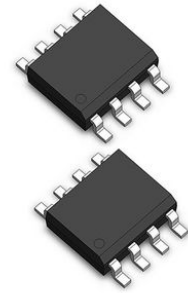
MSOP-8 Package ESD Array SE02P8M14HA ESD Surge Protection Low Clamping Voltage

Our Product Introduction

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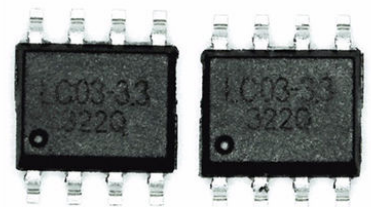
Basic Information

- Place of Origin: Shenzhen Guangdong China
- Brand Name: SOCAY
- Certification: REACH RoHS ISO
- Model Number: SE02P8M14HA
- Minimum Order Quantity: 3000PCS
- Price: Negotiable
- Delivery Time: 5-8 work days

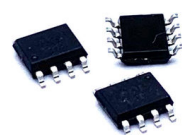
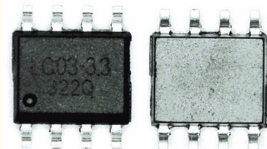


Product Specification

- Component Name: ESD Arrays
- Component Package: SE02P8M14HA
- V_{rw} (Max.): 2.8V
- I_r (Typ.): 0.1V
- I_r (Max.): 1.0μA
- V_{t1} (Typ.): 3.7V
- V_h: 3.0~4.0V
- V_c (Max.) (I_{pp}=2A): 5.0V
- V_c (Max.) (I_{pp}=10A): 8.0V
- V_c (Max.) (I_{pp}=24A): 14.0V
- C_j (Typ.): 1.5pF
- C_j (Max.): 2.5pF
- Highlight: MSOP-8 ESD Array, ESD Array SE02P8M14HA, MSOP-8 ESD Surge Protection



More Images



Product Description

MSOP-8 Package ESD Arrays SE02P8M14HA Ultra-Low Capacitance 1.5pF @ 3.0V (Typical) ESD Surge Protection

ESD Arrays DATASHEET: [SE02P8M14HA_v2207.1.pdf](#)

ESD Arrays Features:

Package optimized for high-speed lines
 Low capacitance: 1.5pF @ 3.0V (Typical)
 Low leakage current: 0.1uA @ V_{RWM} (Typical)
 Low operating and clamping voltage

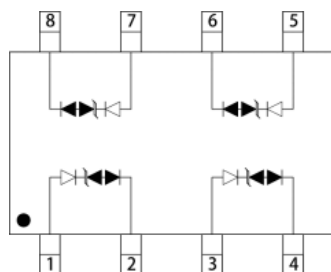
ESD Arrays Applications:

10/100M Ethernet Ports
 WAN/LAN Equipment
 Desktops, Servers and Notebooks
 Cellular Phones

ESD Arrays Mechanical Characteristics:

MSOP-8 package
 Flammability Rating: UL 94V-0
 Marking: Part number
 Quantity Per Reel: 3,000 pcs
 Reel size: 13 inch

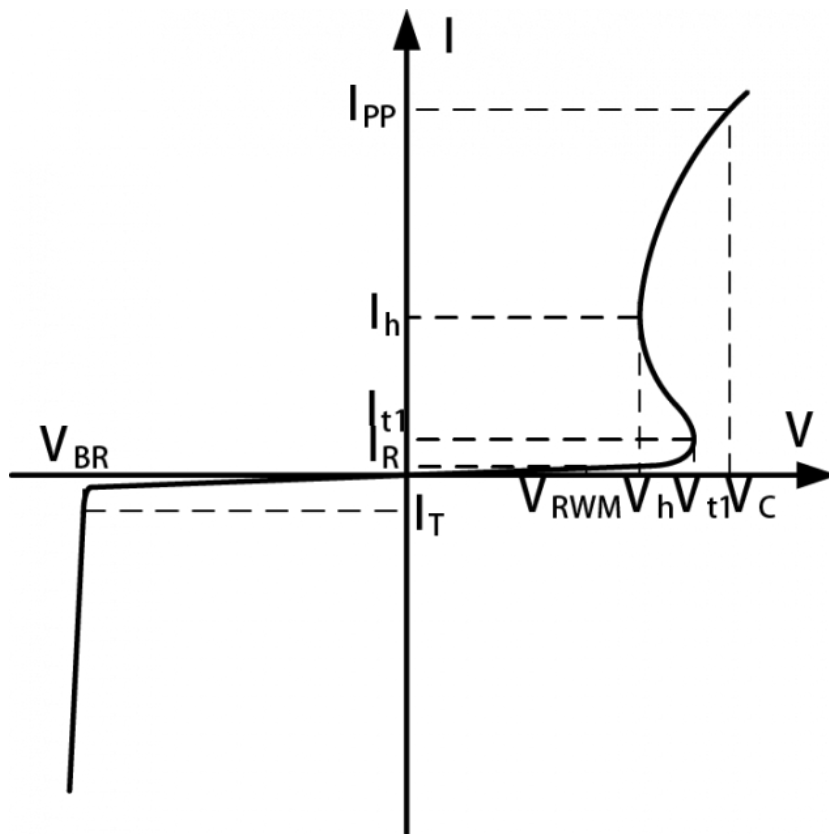
ESD Arrays Functional Diagram:



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

Symbol	Parameter	Value	Units
VESD	ESD per IEC 61000-4-2(Air)	± 30	KV
	ESD per IEC 61000-4-2 (Contact)	± 30	
TOPT	Operating Temperature	-55to+125	
TSTG	Storage Temperature	-55to+150	
TLST	Lead Soldering Temperature	260(10sec.)	

I-V Curve Characteristics:



Uni-Directional TVS

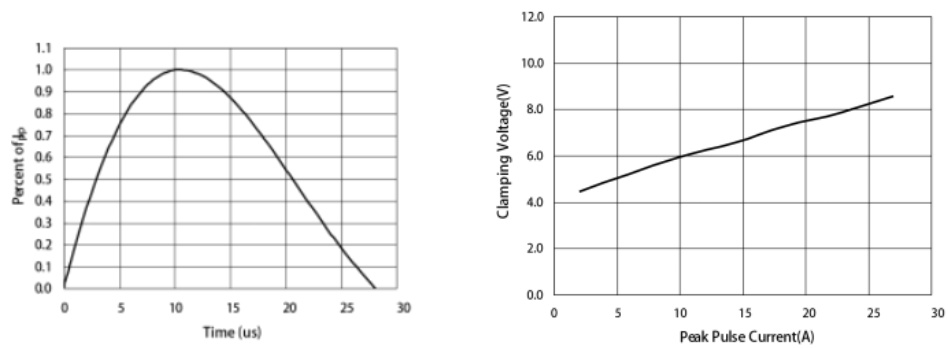
Symbol	Parameter
V_{RWM}	Nominal Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{t1}	Trigger Voltage
I_{t1}	Trigger Current @ V_{t1}
V_h	Holding Voltage
I_h	Holding Current @ V_h
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Maximum Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
C_J	Parasitic Capacitance

Electrical Characteristics ($T_A = 25$ unless otherwise specified):

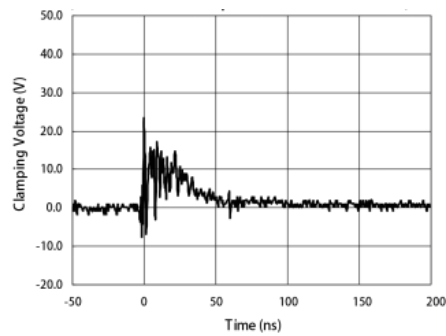
Symbol	Test Condition	Minimum	Typical	Maximum	Unit
V_{RWM}	--	--	--	2.8	V
I_R	$V_{RWM}=2.8V, T=25$	--	0.1	1.0	μA
V_{t1}	$I_{t1}=100\mu A$	3.0	3.7	4.5	V
V_h	$I_h=10mA$	3.0	--	4.0	V
V_C	$I_{PP}=2A, t_p=8/20\mu s$ (Each Line)	--	--	5.0	V
V_C	$I_{PP}=10A, t_p=8/20\mu s$ (Each Line)	--	--	8.0	V
V_C	$I_{PP}=24A, t_p=8/20\mu s$ (Each Line)	--	--	14.0	V
C_J	$V_R=3.0V, f=1MHz$ (Each Line)	--	1.5	2.5	pF

ESD Arrays Characteristic Curves:
Fig1. 8/20 μs Pulse Waveform

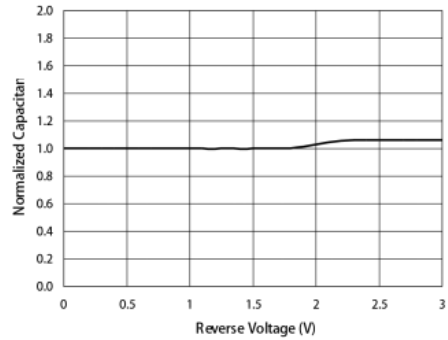
Fig2. Clamping Voltage V_C vs. Current I_{PP}



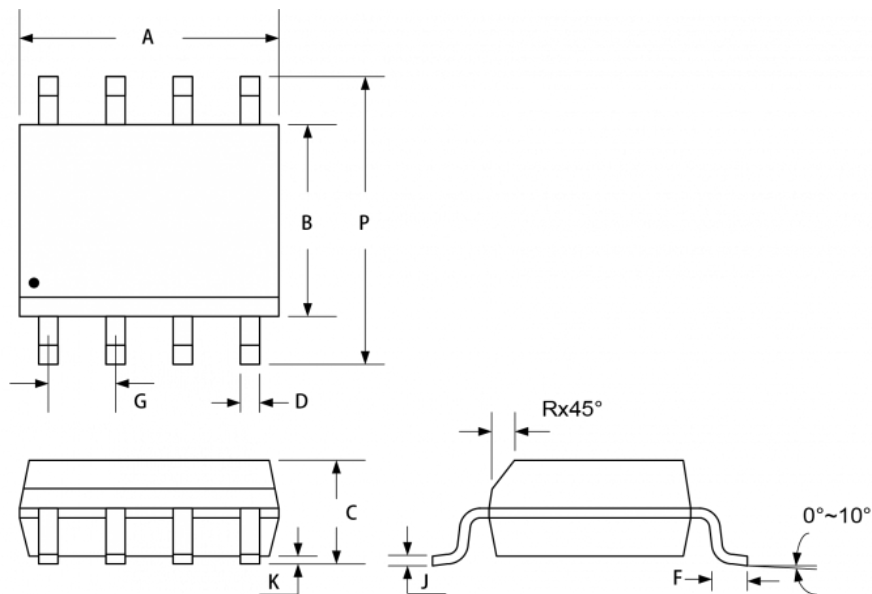
**Fig3. ESD Clamping of I/O to GND
(+8kV Contact per IEC 61000-4-2)**



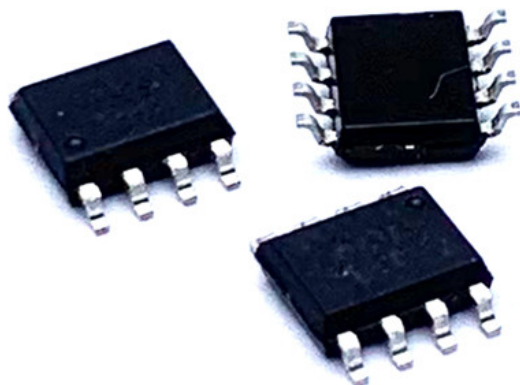
F4gNormalized Capacitance vs. Voltage



MSOP-8 Package Outline & Dimensions:



Symbol	Millimeters		Inches	
	Minimum	Maximum	Minimum	Maximum
A	4.800	5.000	0.189	0.196
B	3.800	4.000	0.150	0.157
C	1.350	1.750	0.054	0.068
D	0.350	0.490	0.014	0.019
F	0.400	1.250	0.016	0.049
G	1.27 BSC.		0.05 BSC.	
J	0.180	0.250	0.007	0.009
K	0.100	0.250	0.004	0.008
P	5.800	6.200	0.229	0.244
R	0.250	0.500	0.010	0.019



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