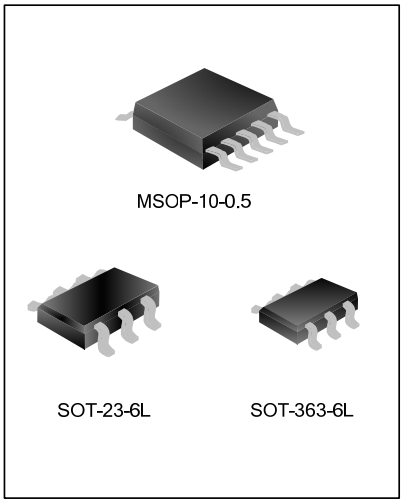
4-CHANNEL LOW CAPACITANCE ESD PROTECTION DIODES ARRAY

DESCRIPTIONS

The SU0524 is a 4-channel ultra low capacitance rail clamp ESD protection diodes array. Each channel consists of a pair of ESD diodes that steer positive or negative ESD current to either the positive or negative rail. A zener diode is integrated in to the array between the positive and negative supply rails.

In the typical applications, the negative rail pin (assigned as GND) is connected with system ground. The Positive ESD current is steered to the ground through an ESD diode and Zener diode and the positive ESD voltage is clamped to the zener voltage.

The SU0524 is idea to protect high speed data lines. Three package type is provided for easy PCB layout.



FEATURES

* 4 channels of ESD protection;
* Provides ESD protection to IEC61000-4-2 level 4
  - ±17kV air discharge
  - ±12kV contact discharge;
* Channel I/O to GND capacitance: 0.9pF(Max)
* Channel I/O to I/O capacitance: 0.45pF(Max)
* Low clamping voltage;
* 5V low operating voltage;
* Improved zener structure;
* Optimized package for easy high speed data lines PCB layout;
* RoHS compliant.

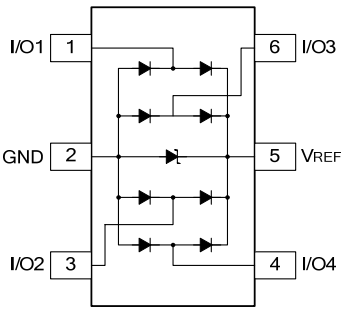
APPLICATIONS

* HDMI / DVI ports;
* Display Port interface;
* 10M / 100M / 1G Ethernet;
* USB 2.0 interface;
* VGA interface
* Set-top box;
* Flat panel Monitors / TVs;
* PC / Note book

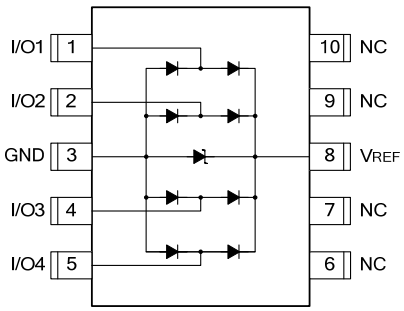
ORDERING INFORMATION

Part No.	Package	Marking	Material	Packing
SU0524A6GTR	SOT-23-6L	C96	Halogen free	Tape&Reel
SU0524B6GTR	SOT-363-6L	C07	Halogen free	Tape&Reel
SU0524LTR	MSOP-10-0.5	SU0524L	Pb free	Tape&Reel

PIN CONFIGURATION



SOT-23-6L/SOT-363-6L
(Top view)



MSOP-10-0.5
(Top view)

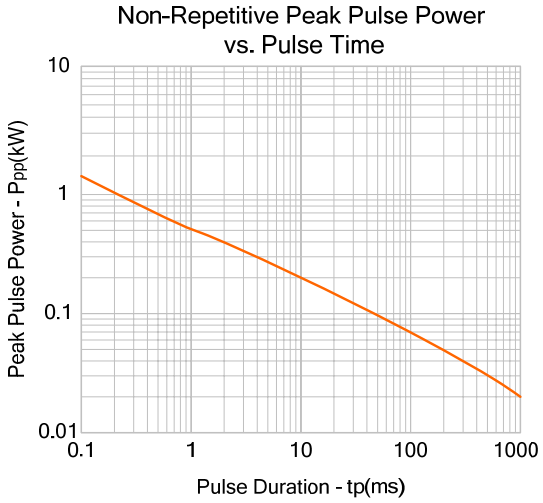
ABSOLUTE MAXIMUM RATINGS

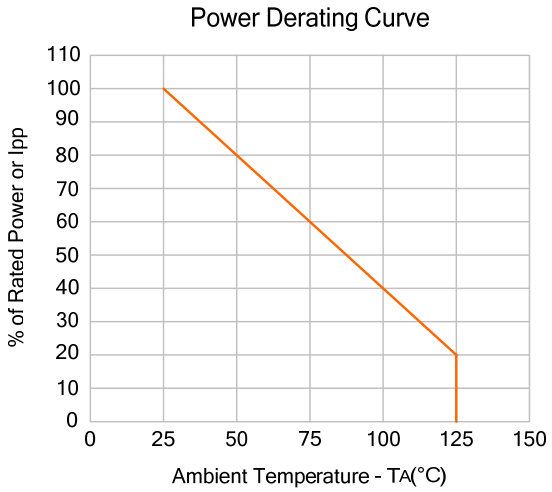
Characteristics	Symbol	Ratings	Unit
Peak Pulse Power(8/20μs)	P_{PP}	150	W
Peak Pulse Current(8/20μs)	I_{PP}	5	A
ESD per IEC 61000-4-2(Air)	V_{ESD1}	±17	kV
ESD per IEC 61000-4-2(Contact)	V_{ESD2}	±12	kV
Operating Temperature Range	Topr	-55 ~ +125	°C
Storage Temperature Range	Tstg	-55 ~ +150	°C

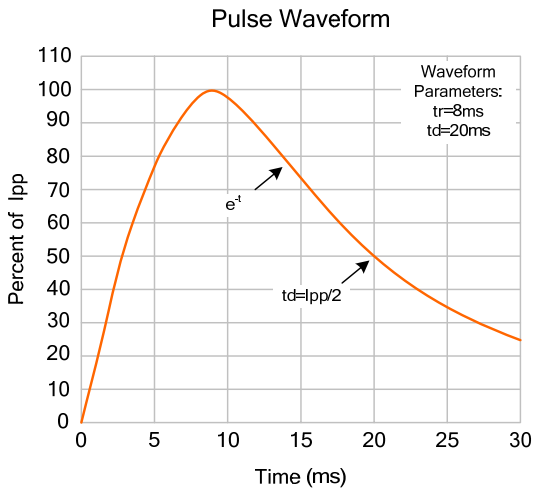
ELECTRICAL CHARACTERISTICS(Tamb=25°C)

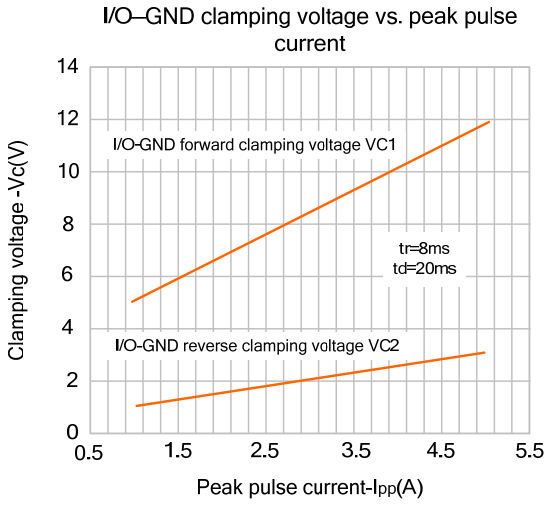
Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V_{RWM}	Any I/O pin to GND	--	--	5	V
Reverse Breakdown Voltage	V_{BR}	I_t=1mA; Any I/O pin to GND	6	--	--	V
Reverse Leakage Current	I_R	V_{RWM} =5V, T=25°C; Any I/O pin to GND	--	--	1	μA
Positive Clamping Voltage	V_{C1}	I_{PP}=1A, t_P=8/20Ms; Positive pulse; Any I/O pin to GND	--	8.5	12.0	V
Negative Clamping Voltage	V_{C2}	I_{PP}=1A, t_P=8/20μS; Negative pulse; Any I/O pin to GND	--	1.8	--	V
Junction Capacitance Between Channel	C_{J1}	V_R=0V, f=1MHz; Between I/O pins	--	0.35	0.45	pF
Junction Capacitance Between I/O And GND	C_{J2}	V_R=0V, f=1MHz; Any I/O pin to GND	--	--	0.9	pF

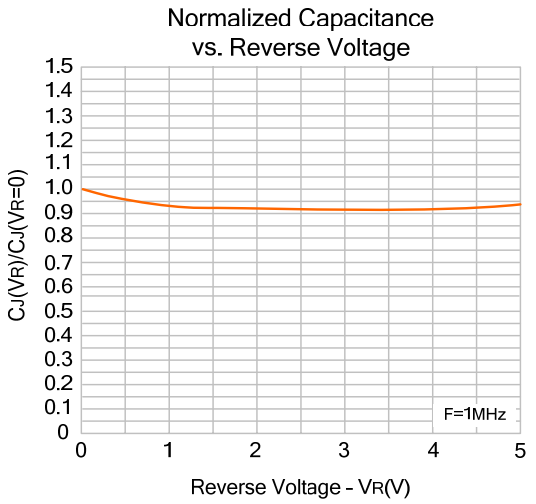
TYPICAL ELECTRICAL CHARACTERISTICS CURVE

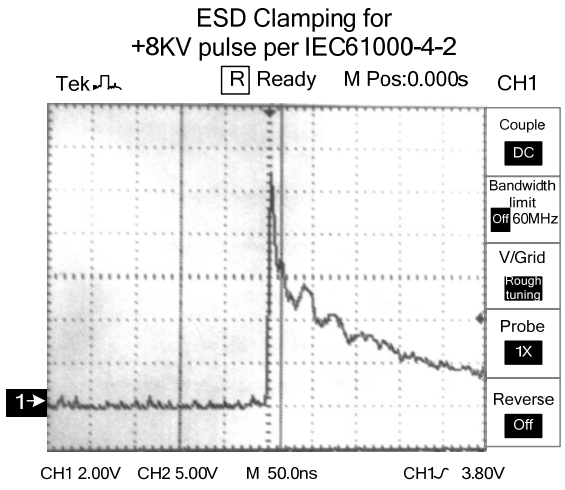




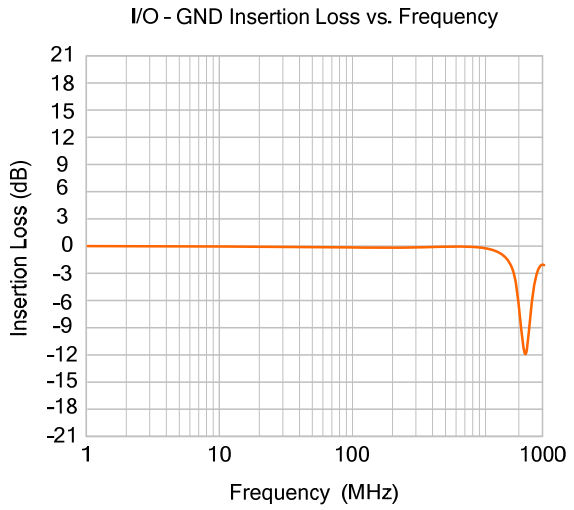


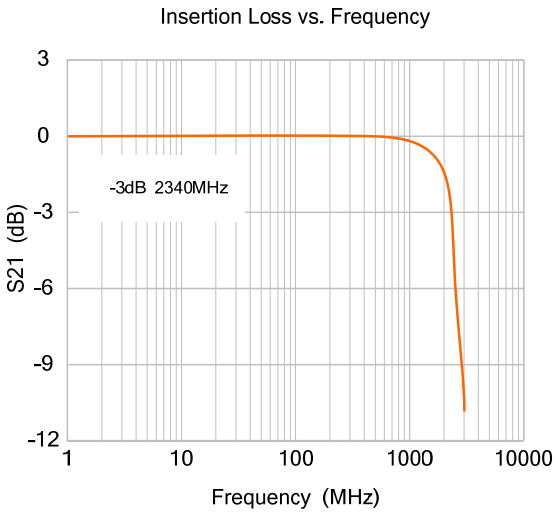






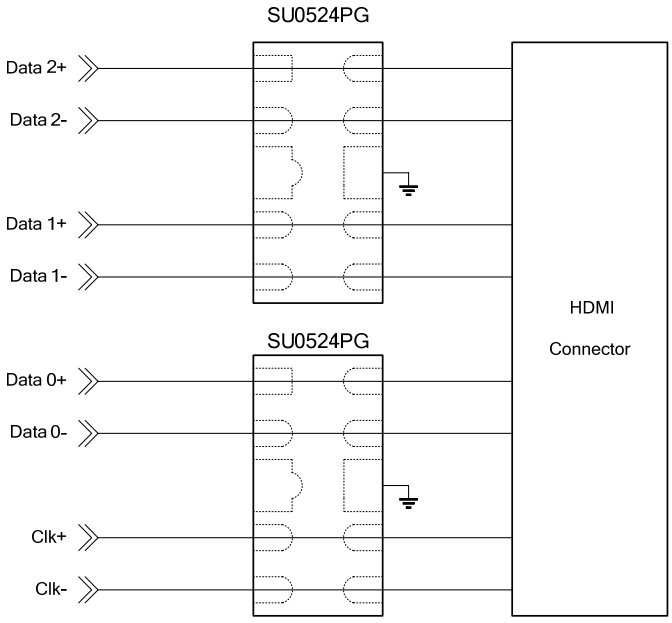
TYPICAL ELECTRICAL CHARACTERISTICS CURVE



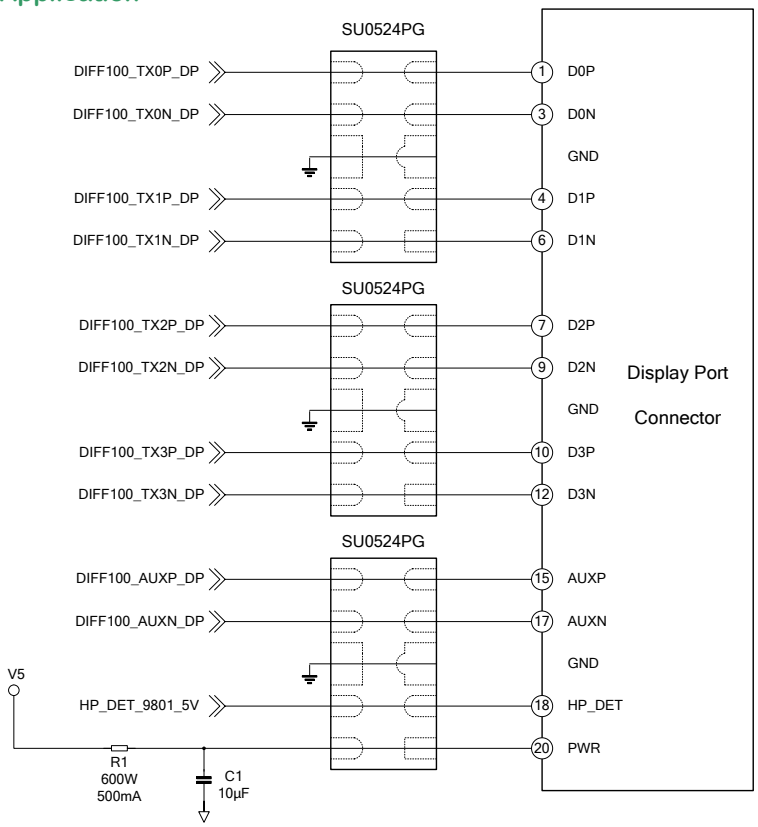


TYPICAL APPLICATIONS

1. HDMI Port Application

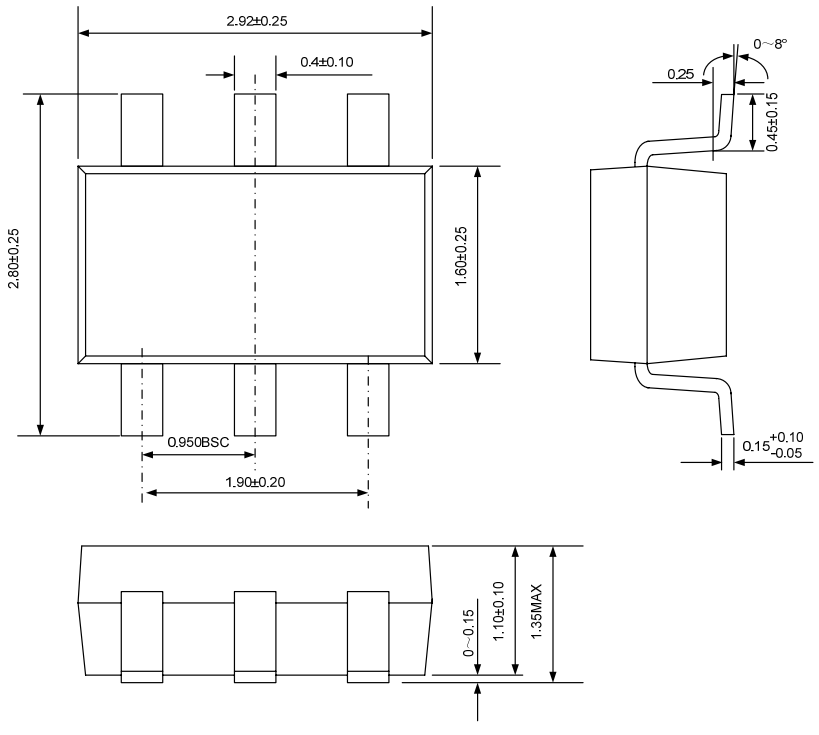


2. Display Port Application



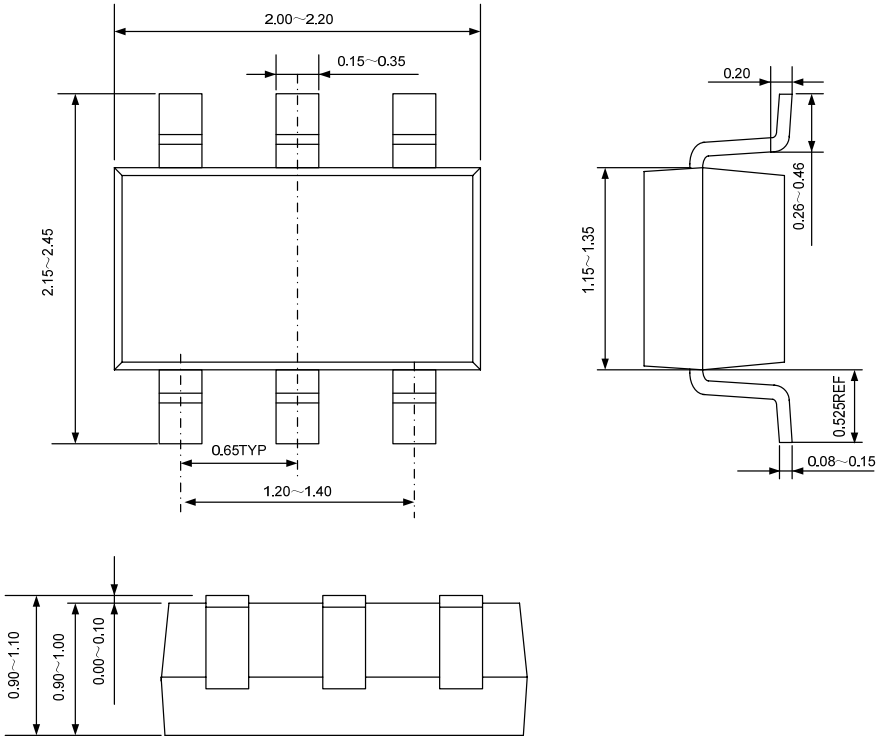
PACKAGE OUTLINE

SOT-23-6L UNIT: mm

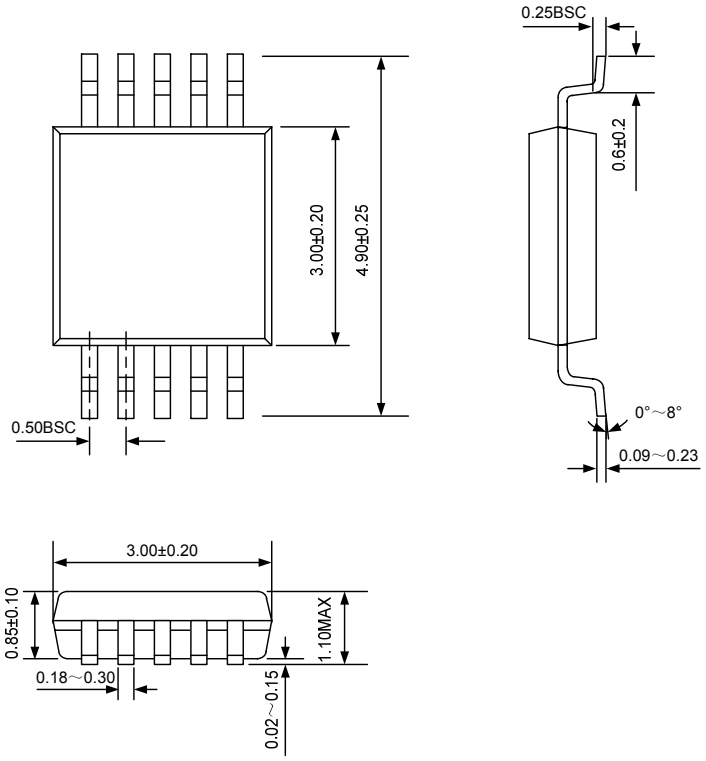


PACKAGE OUTLINE (Continued)

SOT-363-6L UNIT: mm

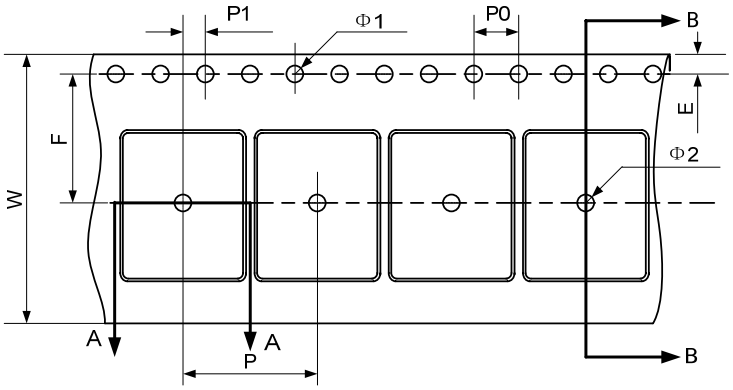


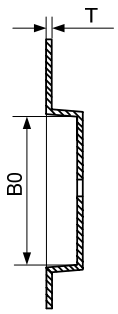
MSOP-10-0.5 UNIT: mm



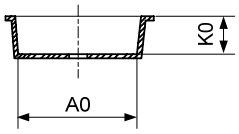
PACKING TYPE

Tape





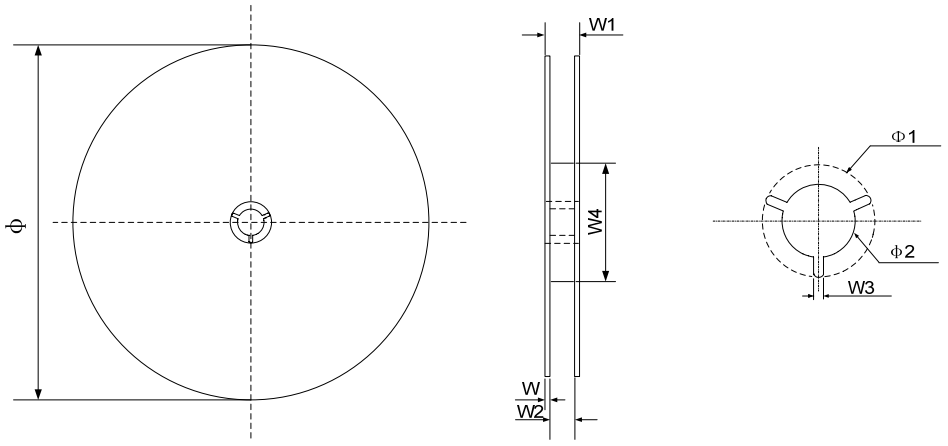
SECTION B-B



SECTION A-A

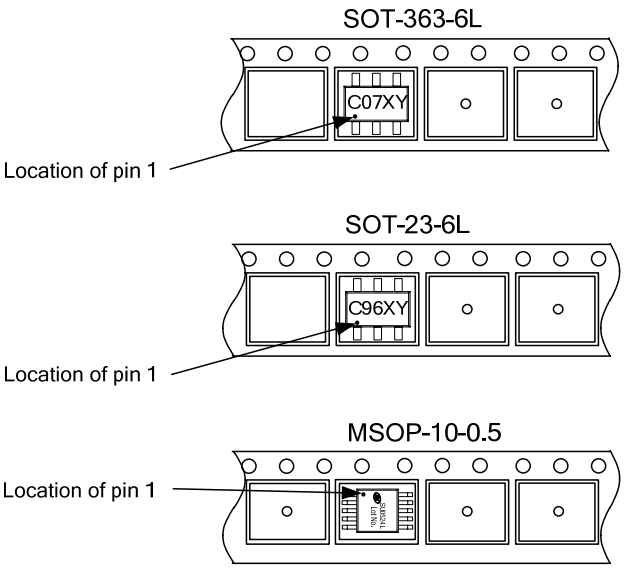
Package	P0	P1	P	A0	B0	W	T	K0	Φ1	Φ2	E	F
SOT-23-6L	4.0±0.1	2.0±0.1	4.0±0.1	3.17±0.1	3.23±0.1	8.0±0.3	0.25±0.02	1.37±0.1	1.50min	1.00±0.25	1.75±0.1	3.50±0.10
SOT-363-6L	4.0±0.1	2.0±0.05	4.0±0.1	2.25±0.1	2.55±0.1	8.0 +0.3 -0.1	0.254±0.02	1.20±0.1	1.50min	1.0 +0.25 -0	1.75±0.1	3.50±0.05
MSOP-10-0.5	4.0±0.1	2.0±0.1	8.0±0.1	5.15~5.40	3.40±0.1	12.0±0.3	0.30±0.05	1.40±0.1	1.50min	1.40~1.75	1.75±0.1	5.50±0.10

Reel

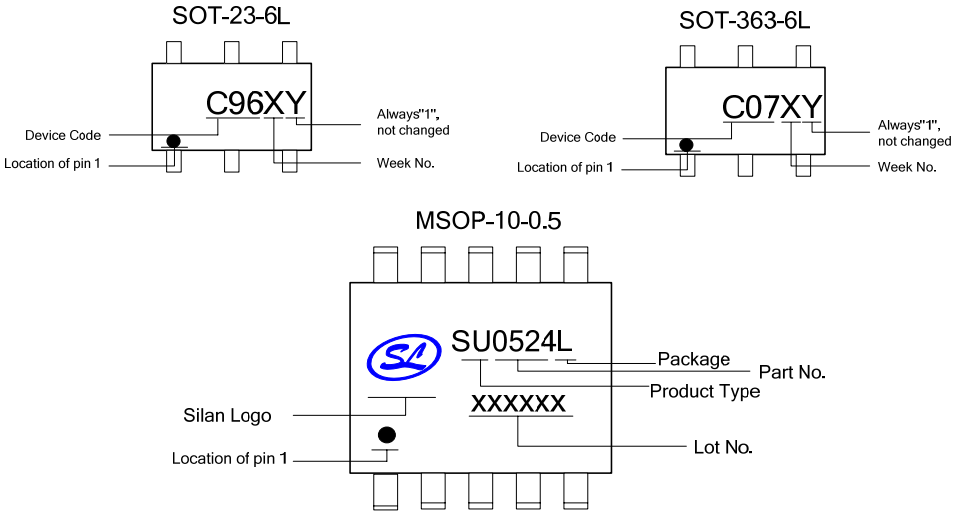


Package	Φ	Φ1	Φ2	W	W1	W2	W3	W4
SOT-23-6L	180±3.0	18.3min	13±0.5	1.5±0.3	12.3±1.0	9.5±1.0	2.3±0.3	60±1.0
SOT-363-6L	178±1.0	18.7±0.4	13±0.2	1.4±0.2	12.3±1.0	9.5±1.0	2.3±0.1	54.4±0.4
MSOP-10-0.5	330±3.0	/	13±0.5	2.6±0.3	17.6±1.0	12.4±1.0	1.9±0.5	100±1.0

IC position in the tape



SEAL GRAPHICS





MOS DEVICES OPERATE NOTES:

Electrostatic charges may exist in many things. Please take following preventive measures to prevent effectively the MOS electric circuit as a result of the damage which is caused by discharge:

- The operator must put on wrist strap which should be earthed to against electrostatic.
- Equipment cases should be earthed.
- All tools used during assembly, including soldering tools and solder baths, must be earthed.
- MOS devices should be packed in antistatic/conductive containers for transportation.

Disclaimer:

- **Silan reserves the right to make changes to the information herein for the improvement of the design and performance without further notice! Customers should obtain the latest relevant information before placing orders and should verify that such information is complete and current..**
- **All semiconductor products malfunction or fail with some probability under special conditions. When using Silan products in system design or complete machine manufacturing, it is the responsibility of the buyer to comply with the safety standards strictly and take essential measures to avoid situations in which a malfunction or failure of such Silan products could cause loss of body injury or damage to property.**
- **Silan will supply the best possible product for customers!**

ATTACHMENT

Revision History

Date	REV	Description	Page
2010.09.09	1.0	Original	
2010.10.15	1.1	Modify “ORDERING INFORMATION”	
2010.10.22	1.2	Modify the template of datasheet	
2011.08.10	1.3	Modify ”ORDERING INFORMATION”, “SEAL GRAPHICS”	
2011.10.19	1.4	Delete the package of DFN-10-2.5x1.0x0.6-0.5	