

4/5路ESD保护二极管阵列

UESD54B SC70-5/SC88A/SOT353**UESD55B SC89-6/SOT563/SOT666****UESD56B SC89-6/SOT563/SOT666****UESD64B SC89-5/SOT553/SOT665**

描述

UESD54B/55B/56B/64B TVS二极管阵列设计用于保护敏感元器件免于ESD损坏或闩锁，适用于电路板空间有限的应用场合。该器件是单向设备，可用于保护信号极性高于地的线路。UESD54B/55B/64B最多可保护四条线路，UESD56B最多可保护五条线路。

TVS二极管是一种固态器件，具有大截面积结，可传导高瞬态电流，特别适用于瞬态抑制。具有适用于板级保护的电气特性，例如快速响应时间、低工作电压、低钳位电压和无器件劣化。

UESD54B/55B/56B/64B可满足IEC 61000-4-2标准的第4级抗扰度要求。其小型封装使其非常适合用于手机、PDA、笔记本电脑和数码相机等便携式电子产品。

应用

- 手机及配件
- 无线电话
- PDA
- 笔记本电脑和掌上电脑
- 便携式设备
- 数码相机
- 外围设备
- MP3 播放器

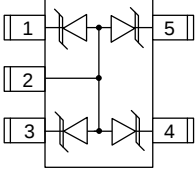
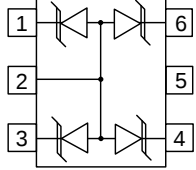
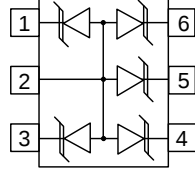
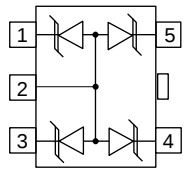
特性

- 数据线和电源线瞬态保护，符合IEC 61000-4-2标准： $\pm 15\text{kV}$ （空气间隙放电）， $\pm 8\text{kV}$ （接触放电）
- 反向工作电压：5V
- 低漏电流
- 低钳位电压
- 固态硅雪崩技术

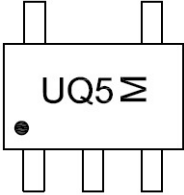
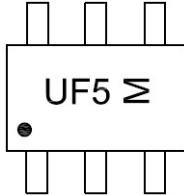
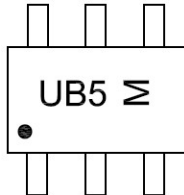
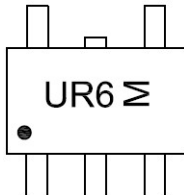
订购信息

芯片型号	反向工作电压	封装信息	通道数	丝印编码	发货数量
UESD54B	5.0V	SC70-5/SC88A/SOT353	4	UQ5	3000pcs/7Inch Tape & Reel
UESD55B	5.0V	SC89-6/SOT563/SOT666	4	UF5	
UESD56B	5.0V	SC89-6/SOT563/SOT666	5	UB5	
UESD64B	5.0V	SC89-5/SOT553/SOT665	4	UR6	

Pin Configurations

 UESD54B SC70-5/SC88A/SOT353	 UESD55B SC89-6/SOT563/SOT666	 UESD56B SC89-6/SOT563/SOT666	 UESD64B SC89-5/SOT553/SOT665
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Top View

 M: Month Code UESD54B SC70-5/SC88A/SOT353	 M: Month Code UESD55B SC89-6/SOT563/SOT666	 M: Month Code UESD56B SC89-6/SOT563/SOT666	 M: Month Code UESD64B SC89-5/SOT553/SOT665
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Absolute Maximum Ratings

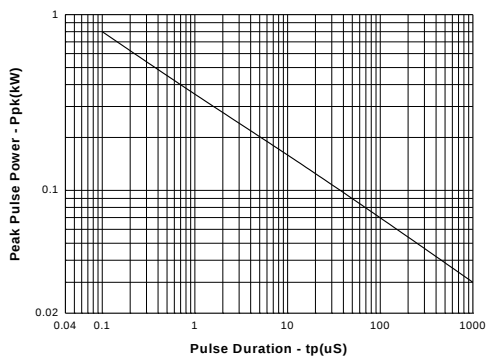
Rating	Symbol	Value	Unit
Peak Pulse Power ($t_p=8/20\mu s$)	P_{PK}	140	Watts
Peak Pulse Current ($t_p=8/20\mu s$)	I_{PP}	11	A
Lead Soldering Temperature	T_L	260 (10 sec.)	℃
Operating Temperature	T_J	-55 to +125	℃
Storage Temperature	T_{STG}	-55 to +125	℃

Electrical Characteristics

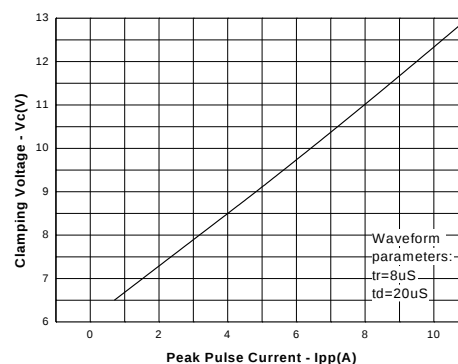
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	6	6.8	7.2	V
Reverse Leakage Current	I_R	$V_{RWM}=5V, T=25\text{ }^{\circ}C$			0.1	μA
Clamping Voltage	V_C	$I_{PP}=5A, t_p=8/20\mu s$			9.1	V
		$I_{PP}=11A, t_p=8/20\mu s$			13	
Junction Capacitance	C_J	Between I/O Pins and GND $V_R=0V, f=1MHz$		40	50	pF
Junction Capacitance	C_J	Between I/O Pins and GND $V_R=2.5V, f=1MHz$		30	40	pF

Typical Operating Characteristics

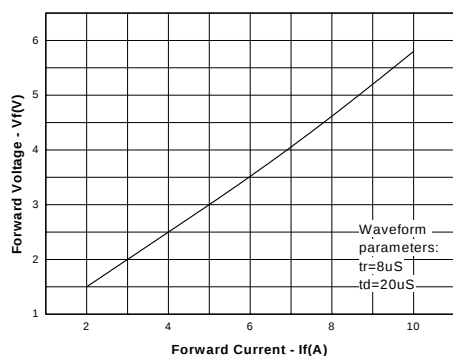
Non-Repetitive Peak Pulse Power vs. Pulse Time



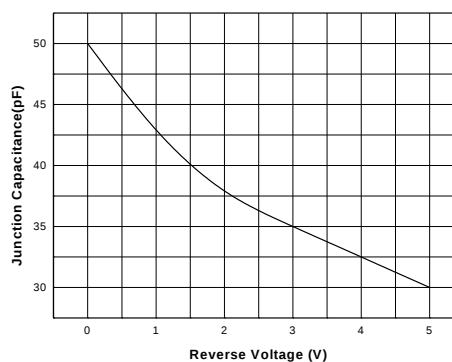
Clamping Voltage vs. Peak Pulse Current



Forward Voltage vs. Forward Current



Junction Capacitance vs. Reverse Voltage



Applications Information

UESD54B/55B/56B/64B ESD protection diode is designed to protect quad/five data, I/O, or power supply lines. The device is unidirectional and may be used on lines where the signal polarity is above ground. The cathode should be placed towards the line that is to be protected.

Circuit Board Layout Recommendations for Suppression of ESD

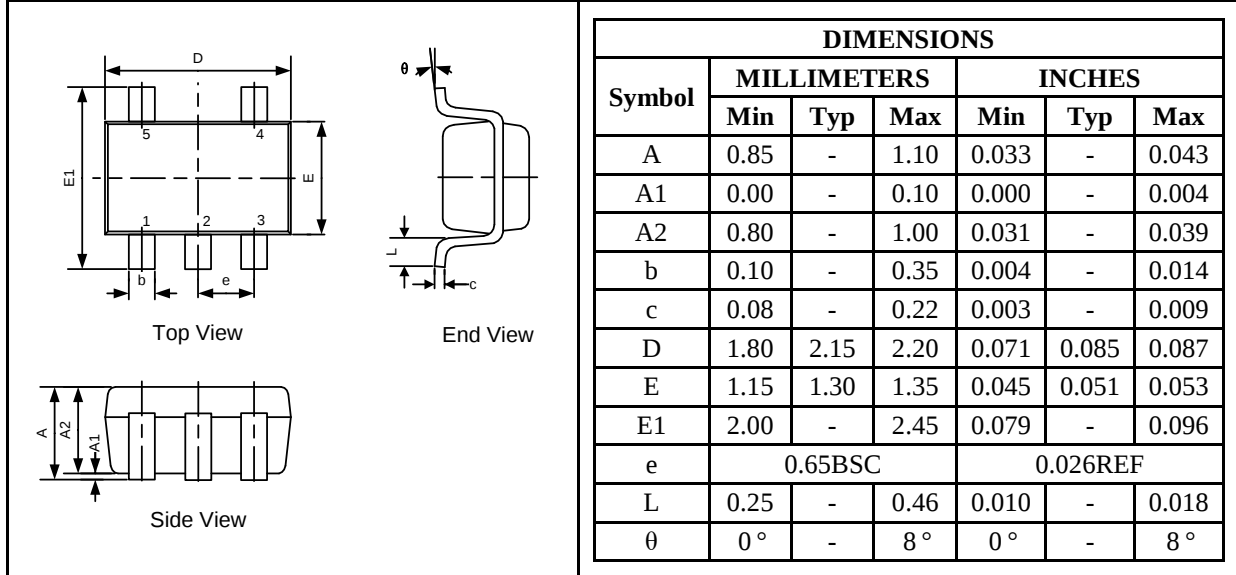
Good circuit board layout is critical for the suppression of ESD induced transients. The following guidelines are recommended:

1. Place the TVS near the input terminals or connectors to restrict transient coupling.
2. Minimize the path length between the TVS and the protected line.
3. Minimize all conductive loops including power and ground loops.
4. The ESD transient return path to ground should be kept as short as possible.
5. Never run critical signals near board edges.
6. Use ground planes whenever possible. For multilayer printed-circuit boards, use ground vias.
7. Keep parallel signal paths to a minimum.
8. Avoid running protection conductors in parallel with unprotected conductor.
9. Minimize all printed-circuit board conductive loops including power and ground loops.
10. Avoid using shared transient return paths to a common ground point.

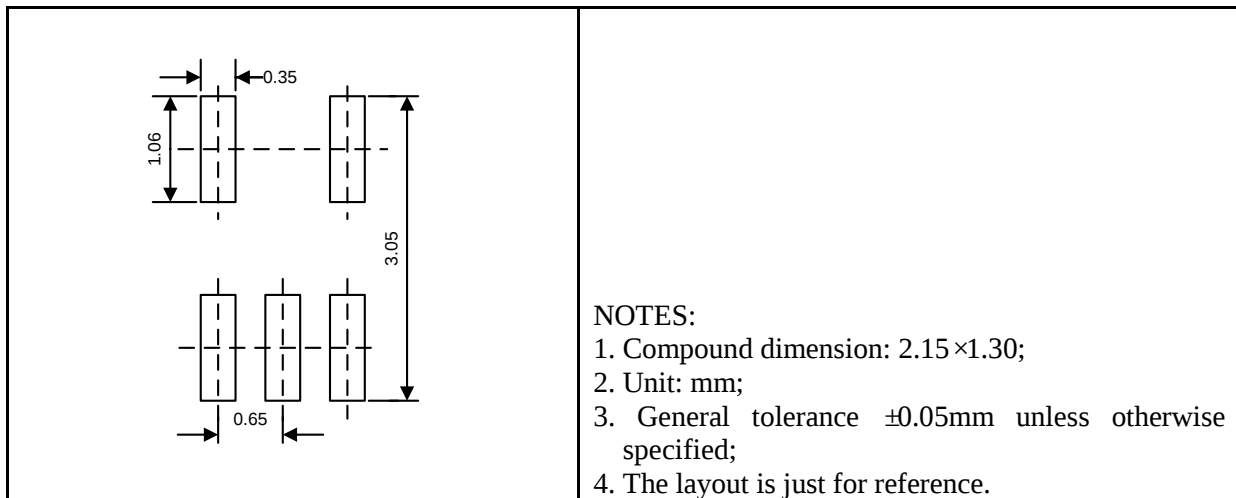
Package Information

UESD54B SC70-5/SC88A/SOT353

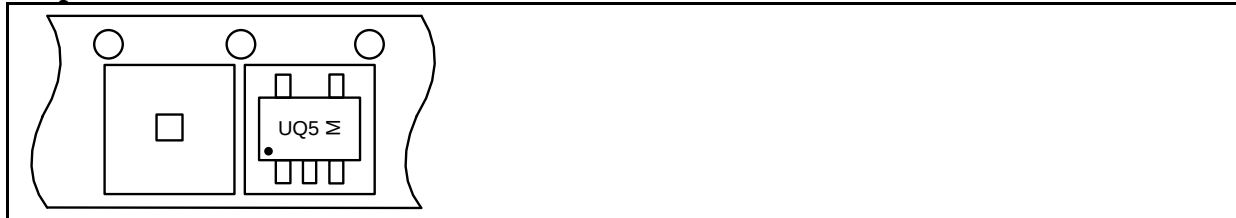
Outline Drawing



Land Pattern

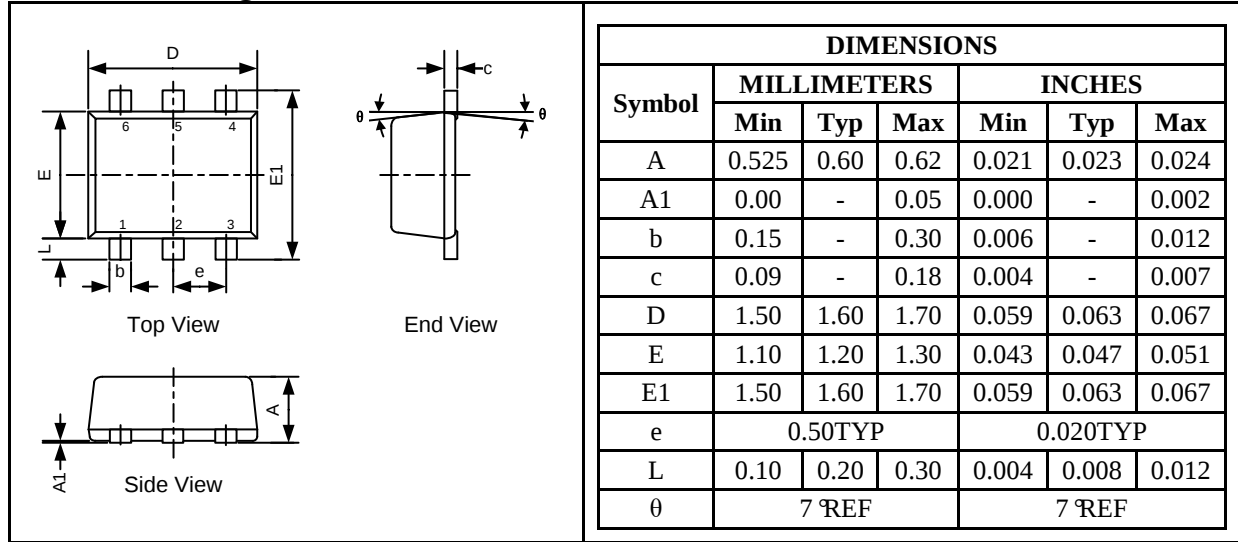


Tape and Reel Orientation

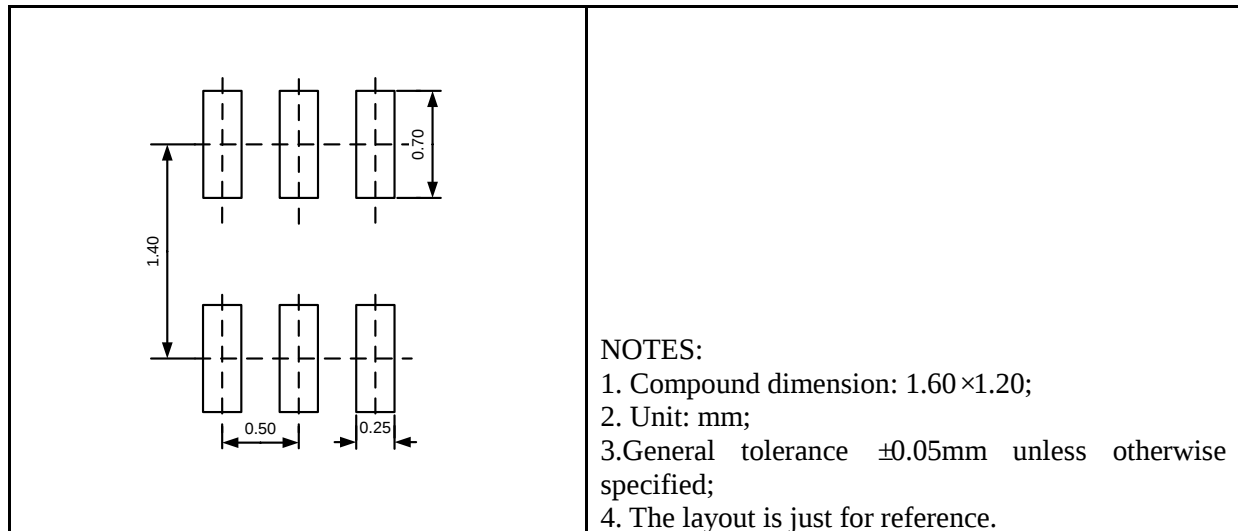


UESD55B SC89-6/SOT563/SOT666

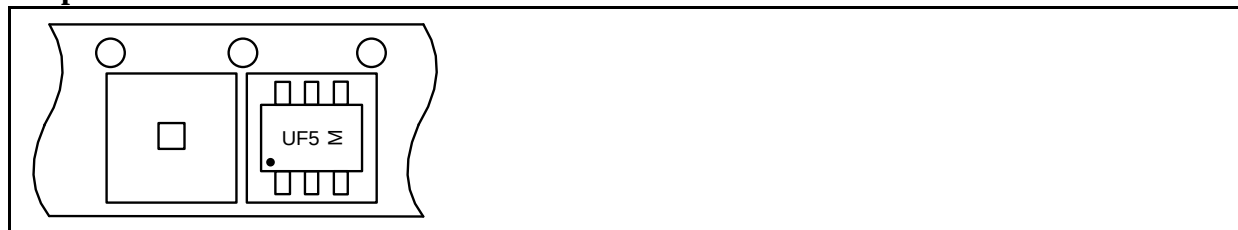
Outline Drawing



Land Pattern

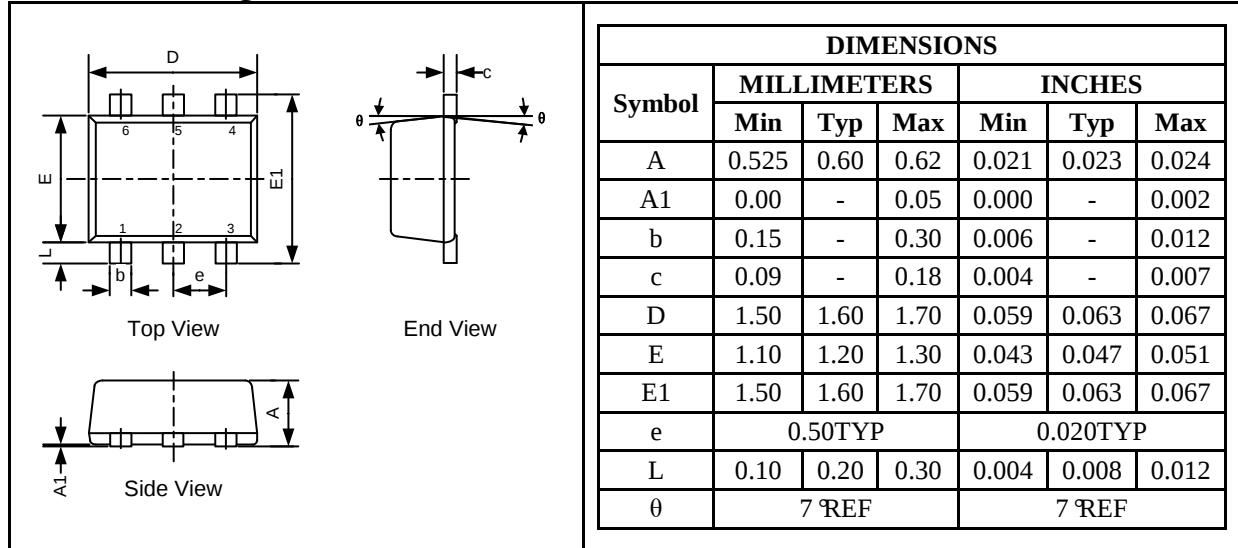


Tape and Reel Orientation

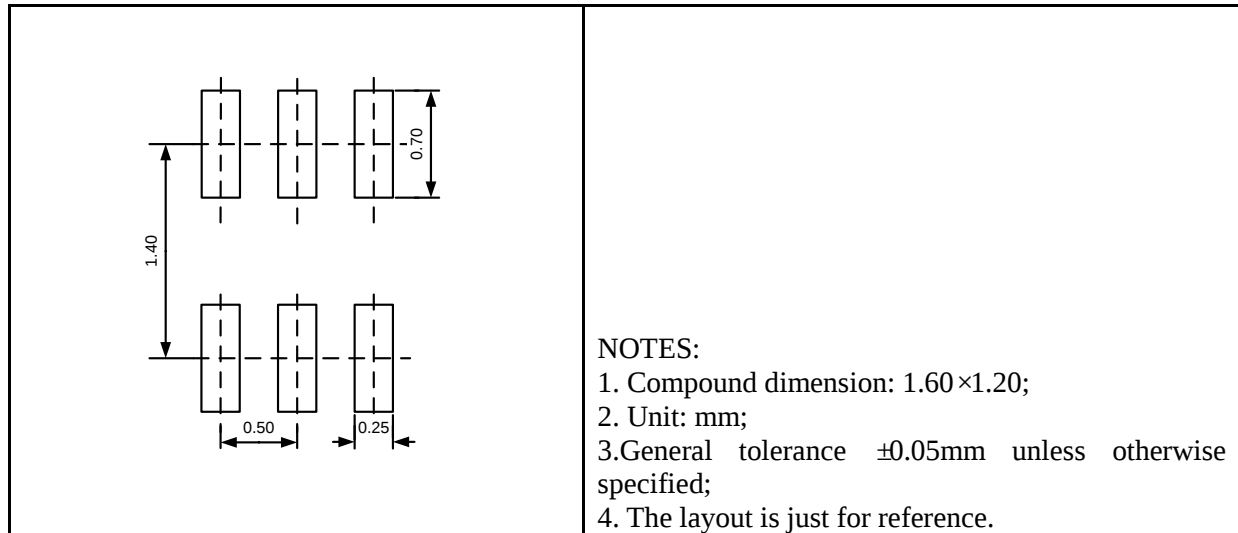


UESD56B SC89-6/SOT563/SOT666

Outline Drawing



Land Pattern

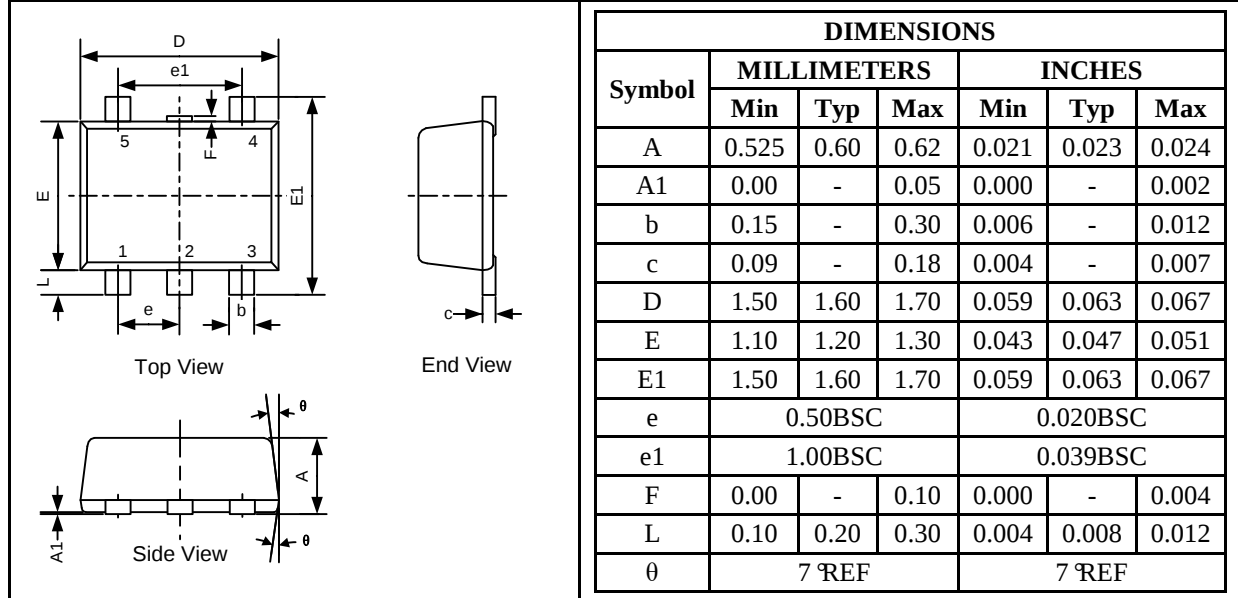


Tape and Reel Orientation

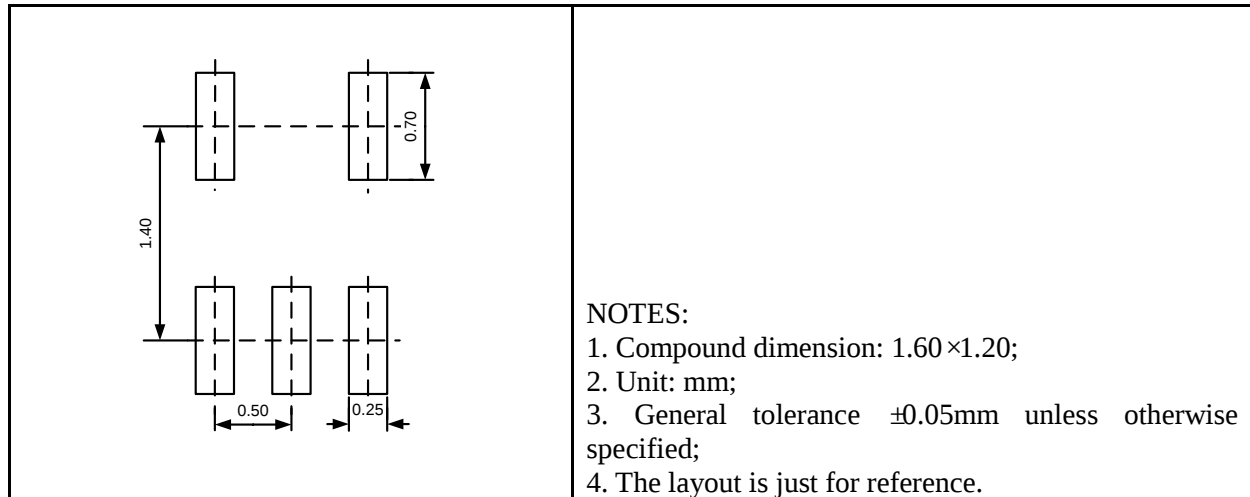


UESD64B SC89-5/SOT553/SOT665

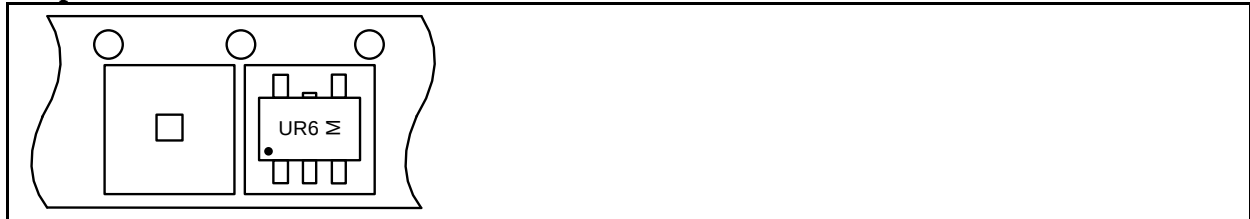
Outline Drawing



Land Pattern



Tape and Reel Orientation



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