



# DATA SHEET

SEMICONDUCTOR

YSESDU5V0SP-04C

## Low Capacitance ESD Protection Diode

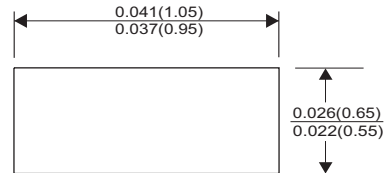


### FEATURES

- ◆ Bi-directional ESD protection.
- ◆ IEC61000-4-2 Level 4 ESD protection.
- ◆ Working Voltage: 5V
- ◆ Typical capacitance: 0.3pF

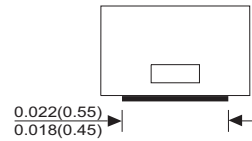
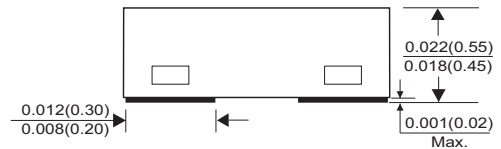


### 0402C/SOD-923F



### MECHANICAL CHARACTERISTICS

- ◆ Case: 0402C/SOD-923F small outline plastic package. molded plastic.
- ◆ Terminals: Matte tin plated, solderable per MIL-STD-202, method 208.
- ◆ Mounting position: Any.
- ◆ High temperature soldering guaranteed:  
Weight: 0.001 grams(approx.).



Dimensions in inches and (millimeter)



### Maximum Rating (at TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse current ( tp = 8/20µs waveform)	PPP	60	W
ESD per IEC 61000-4-2(Air)	VESD	±15	kV
ESD per IEC 61000-4-2(Contact)		±8	
Operating temperature rang	TJ	-55 to +150	°C
Storage temperature rang	TSTG	-55 to +150	°C

### Electrical Characteristics (at TA=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse stand-Off voltage		VRWM	-	-	5	V
Reverse leakage current	VR = 5 V	IR	-	-	100	nA
Reverse breakdown voltage	IR = 1 mA	V(BR)	6	-	10	V
Clamping voltage	I <sub>PP</sub> = 1 A	Vc	-	13	15	V
	I <sub>PP</sub> = 3 A	Vc	-	18	20	V
Junction capacitance	VR = 0V , F = 1MHz	CJ	-	0.3	0.6	pF

# DEVICE CHARACTERISTICS

## YSESDU5V0SP-04C

### RATING AND CHARACTERISTIC CURVES

Fig.1 - 8/20us Peak Pulse Current Wave  
Form Acc. IEC 61000-4-5

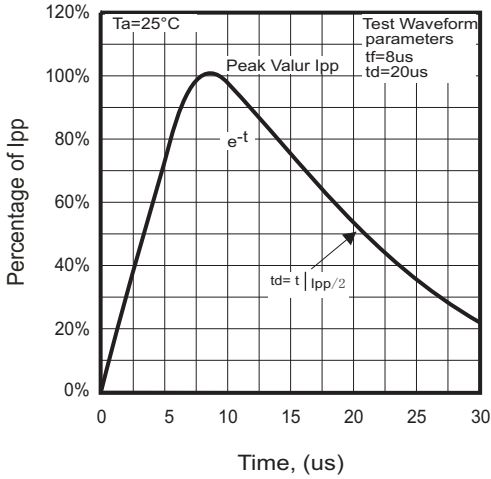


Fig.2 - Typical Capacitance Between  
Terminals Characteristics

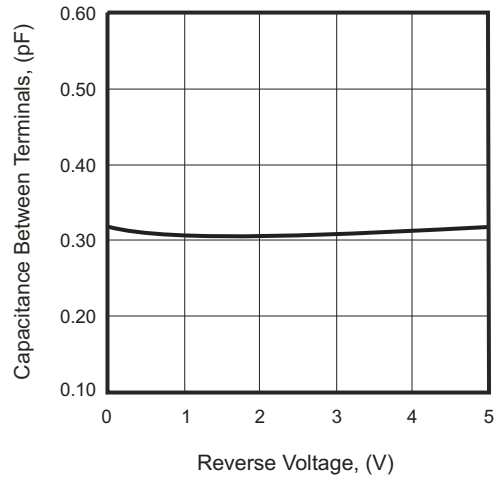


Fig.3 - Clamping Voltage Vs.  
Peak Pulse Current

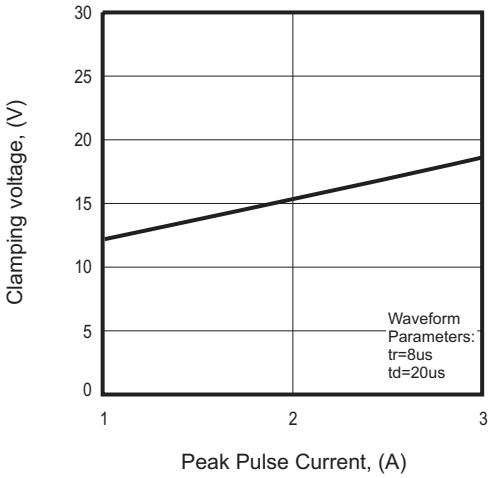
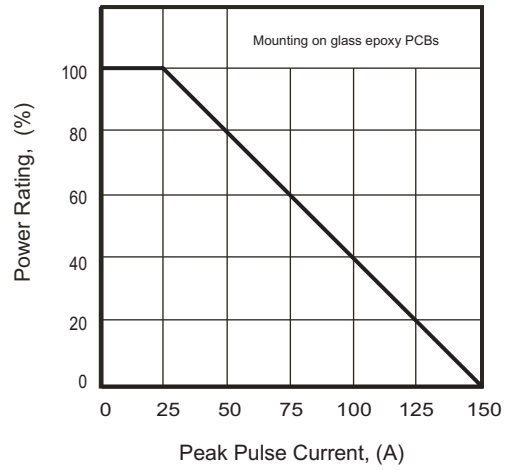


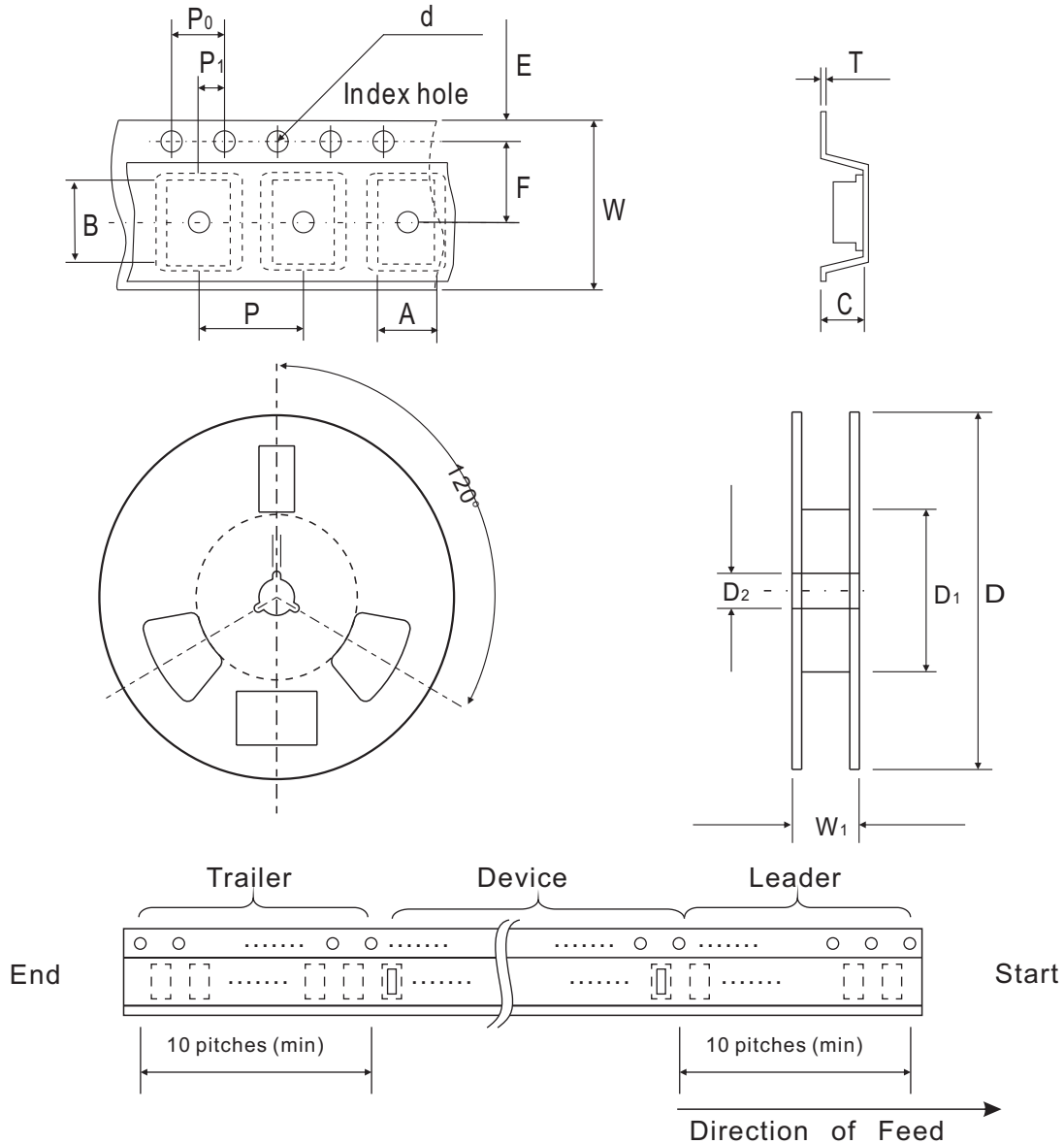
Fig.4 - Power Rating Derating Curve



# DEVICE CHARACTERISTICS

## YSESDU5V0SP-04C

### Reel Taping Specification



0402C/ SOD-923F	SYMBOL	A	B	C	d	D	D <sub>1</sub>	D <sub>2</sub>
	(mm)	0.75 ± 0.10	1.15 ± 0.10	0.60 ± 0.10	1.55 ± 0.10	178 ± 1.00	60.0 MIN.	13.0 ± 0.20
	(inch)	0.030 ± 0.004	0.045 ± 0.004	0.024 ± 0.004	0.061 ± 0.004	7.008 ± 0.04	2.362 MIN.	0.512 ± 0.008

0402C/ SOD-923F	SYMBOL	E	F	P	P <sub>0</sub>	P <sub>1</sub>	T	W	W
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.22 ± 0.05	8.00 ± 0.20	13.50 MAX.
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.009 ± 0.002	0.315 ± 0.008	0.531 MAX.

# DEVICE CHARACTERISTICS

YSESDU5V0SP-04C

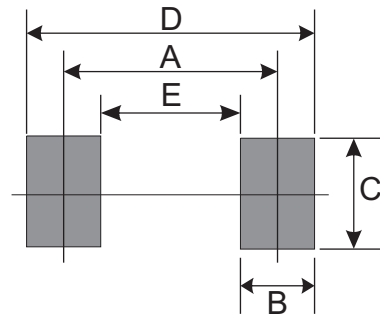
## Marking Code

Part Number	Marking Code
YSESDU5V0SP-04C	5P



## Suggested PAD Layout

SIZE	0402C/SOD-923F	
	(mm)	(inch)
A	0.70	0.028
B	0.40	0.016
C	0.70	0.028
D	1.10	0.043
E	0.30	0.012



## Standard Packaging

Case Type	REEL PACK	
	REEL ( pcs )	Reel Size (inch)
0402C/SOD-923F	5,000	7