

## 1. Synopsis

### 1-1. Feature List

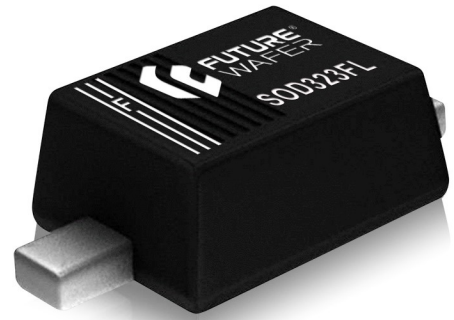
- Small Surface Mounting Type

### 1-2. Applications

- Very Low Forward Voltage
- Protection Circuit

### 1-3. Mechanical Characteristics

- Molded JEDEC Package: SOD323FL
- Packing: Tape and Reel
- Flammability Rating UL 94V-0
- Halogen Free
- JEDEC MSL Classification: Level 1



SOD323FL



### 1-4. Absolute Maximum Ratings

#### Maximum Ratings@25°C Unless Otherwise Specified

Parameter	Symbol	Values	Units
Peak Repetitive Reverse Voltage	$V_{RRM}$	45	V
Maximum DC Reverse Voltage	$V_R$	31	
Average Rectified Output Current	$I_O$	100	mA
Peak Forward Surge Current, 8.3ms Signal Half-Sine Wave Uni-directional Only (Note1)	$I_{FSM}$	1	A

Notes:

(1) Measured on 8.3ms Signal Half Sine Wave Or Equivalent Square Wave, Duty Cycle = 4 per Minute Maximum.

### 1-5. Electrical Characteristics

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Forward Voltage Drop	$V_F$	$I_F = 10mA, T_J = 25^\circ C$	-	-	0.34	V
		$I_F = 100mA, T_J = 25^\circ C$	-	-	0.55	
Leakage Current	$I_R$	$V_R = 10V, T_J = 25^\circ C$	-	-	30	uA
Capacitance	$C_T$	$V_R = 10V, f = 1MHz$	-	6.0	-	pF

### 1-6. Thermal Characteristics

Parameter	Symbol	Values	Units
Typical Thermal Resistance, Junction-Ambient	$R_{eJA}$	500	°C/W
Typical Thermal Resistance, Junction-Case	$R_{eJC}$	80	
Operating Temperature Range	$T_J$	-40 ~ +125	°C
Storage Temperature Range	$T_{STG}$		

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## **2. Contents**

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**3. Ratings and Characteristics Curve** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

Fig 1. Maximum Non-repetitive Forward Surge Current

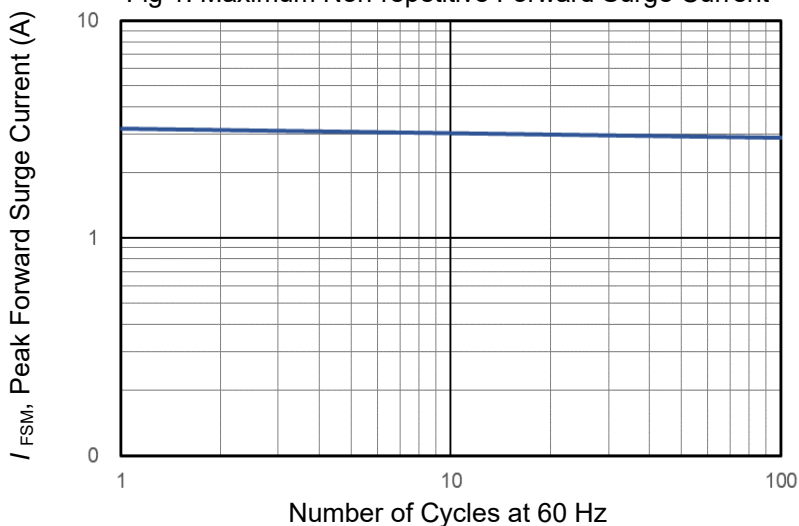


Fig 2. Typical Forward Characteristics

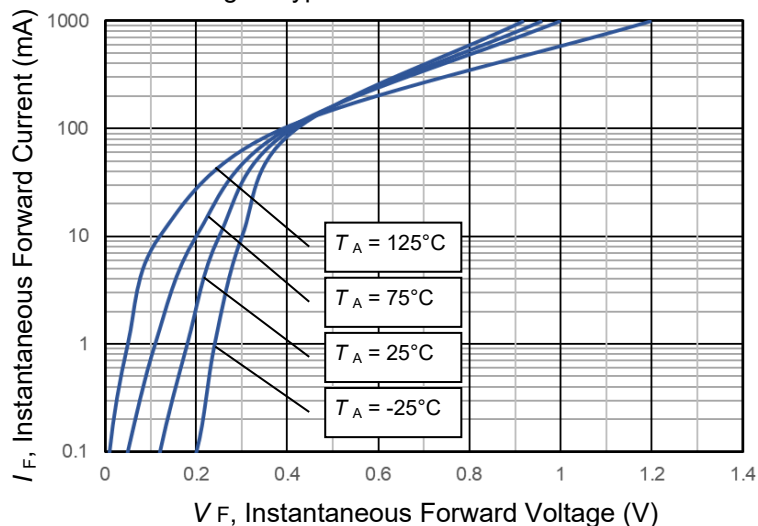


Fig 3. Typical Reverse Characteristics

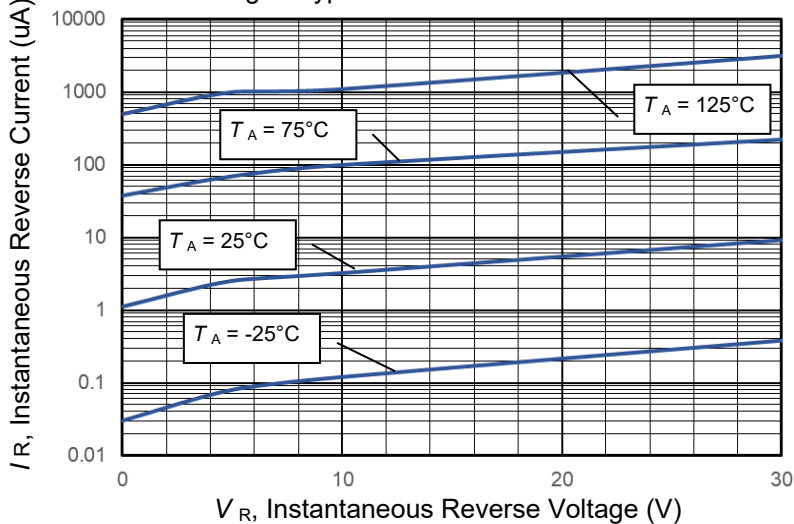


Fig 4. Forward Current Derating Curve

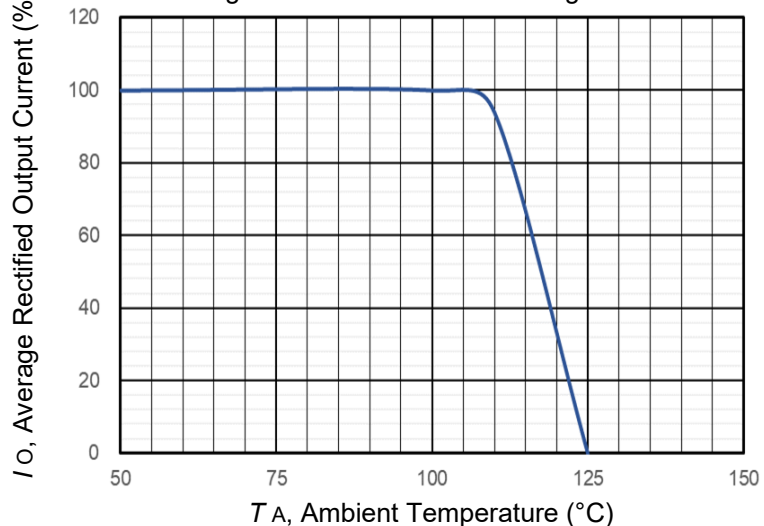


Fig 5. Capacitance vs. Reverse Voltage

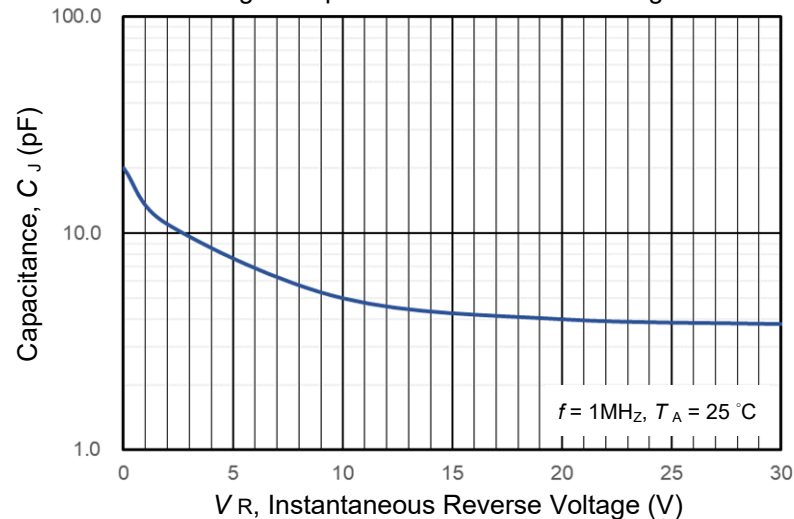
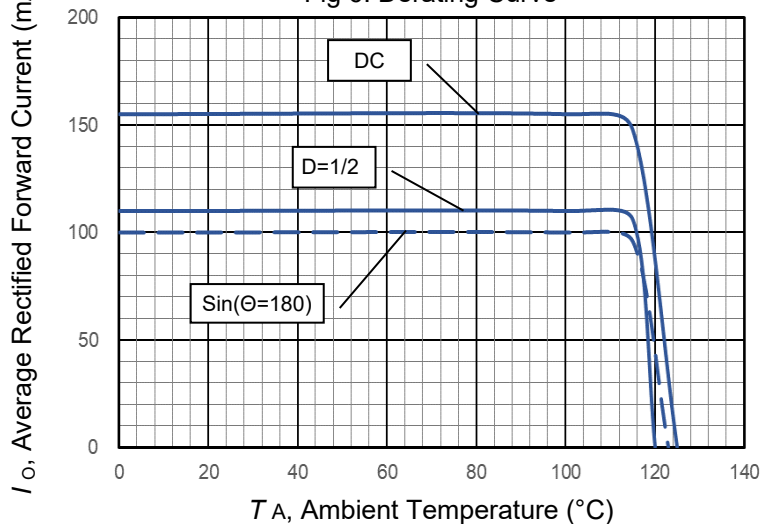
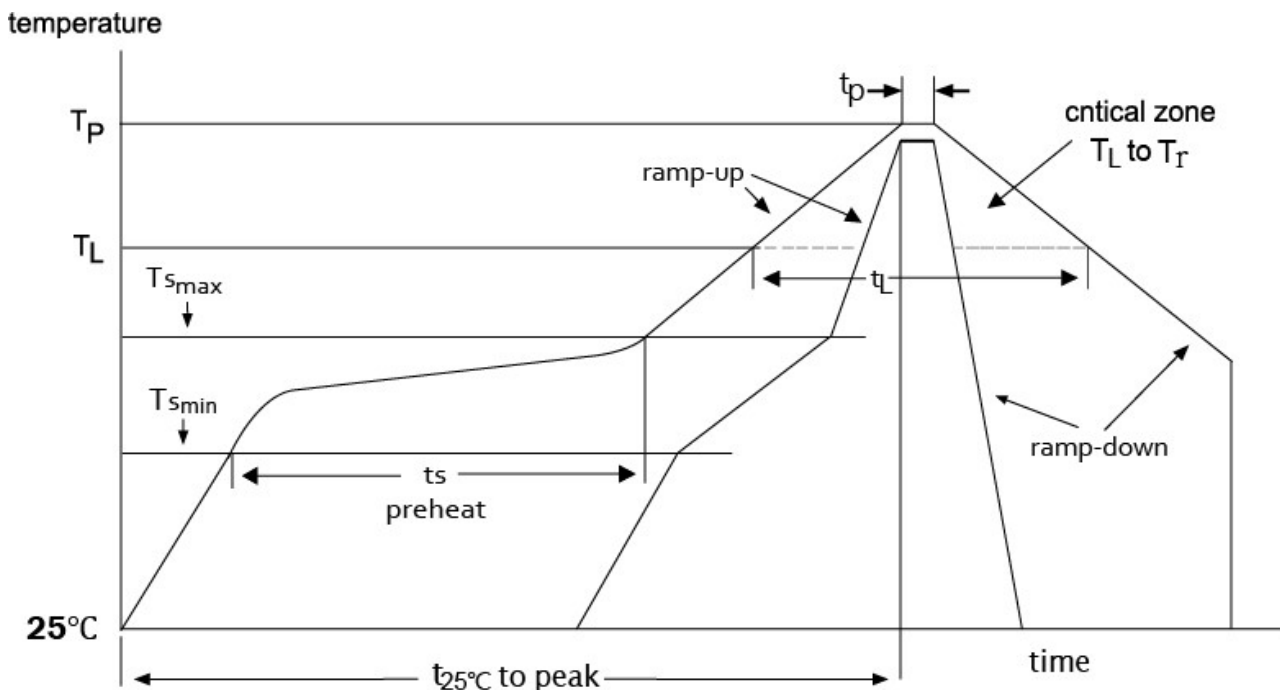


Fig 6. Derating Curve



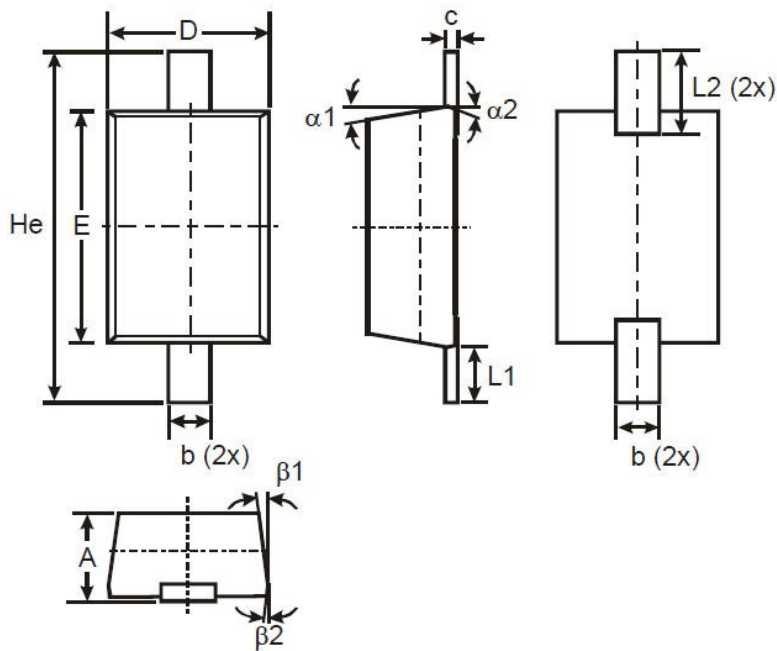
#### 4. Soldering Parameters

Profile Feature	SnPb eutectic assembly	Pb-free assembly
Average ramp-up rate (T <sub>smax</sub> to T <sub>p</sub> )	3 °C/s maximum	3 °C/s maximum
Preheat		
Temperature minimum (T <sub>smin</sub> )	100 °C	150 °C
Temperature maximum (T <sub>smax</sub> )	150 °C	200 °C
Time (t <sub>smin</sub> to t <sub>smax</sub> )	60 s to 120 s	60 s to 180 s
Time maintained above		
Temperature (T <sub>L</sub> )	183 °C	217 °C
Time (t <sub>L</sub> )	60 s to 150 s	60 s to 150 s
Peak/classification temperature (T)	235 °C	260 °C
Number of allowed reflow cycles	3	3
Time within 5 °C of actual peak temperature (t <sub>p</sub> )	10 s to 30 s	20 s to 40 s
Ramp-down rate	6 °C/s maximum	6 °C/s maximum
Time 25 °C to peak temperature	6 minutes maximum	8 minutes maximum



## 5. Package Information

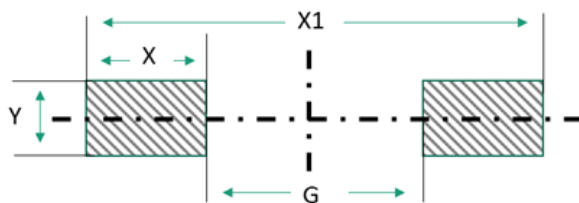
### 5-1. Dimension


**SOD323FL**

Dim.	Min.	Typ.	Max.
A	0.80	-	1.10
b	0.25	-	0.40
c	0.10	-	0.15
D	1.15	-	1.35
E	1.60	-	1.80
He	2.30	-	2.80
L1	0.7	-	1.0
L2	0.8	-	1.2
$\alpha 1$	-	-	7°
$\alpha 2$	-	-	3°
$\beta 1$	-	-	7°
$\beta 2$	-	-	3°

Unit:mm

### 5-2. PCB Pad Layout Recommendation

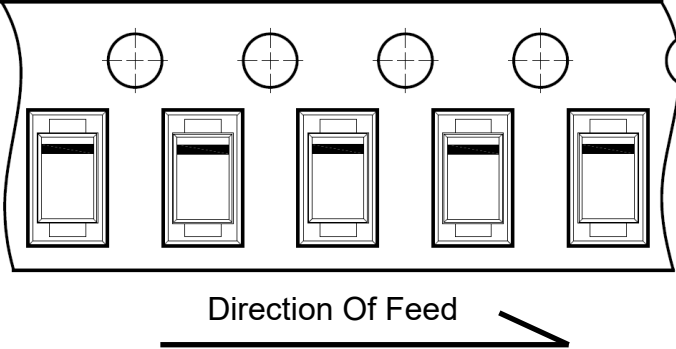


Dimension	Values
G	2.0
X	1.4
X1	3.0
Y	0.5

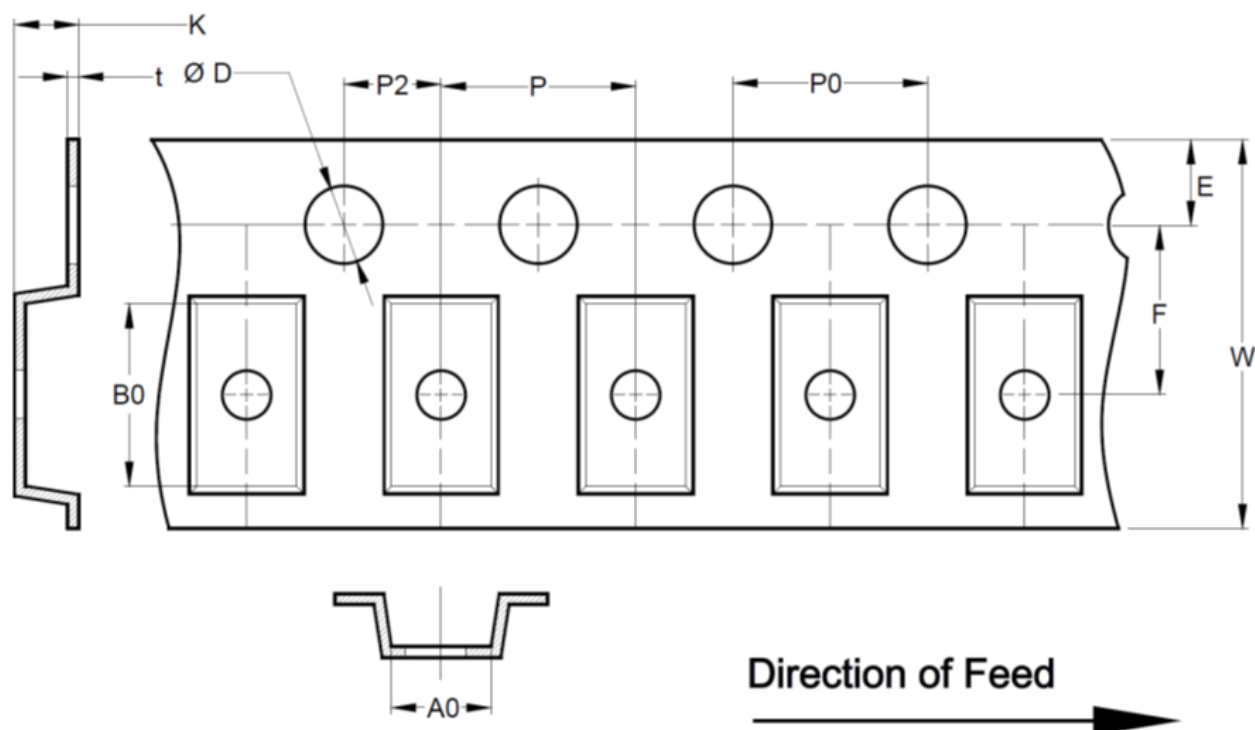
Unit:mm

## 6. Packing

### 6-1. Taping and Reel Specification

Taping Width	Tape Orientation
8mm	

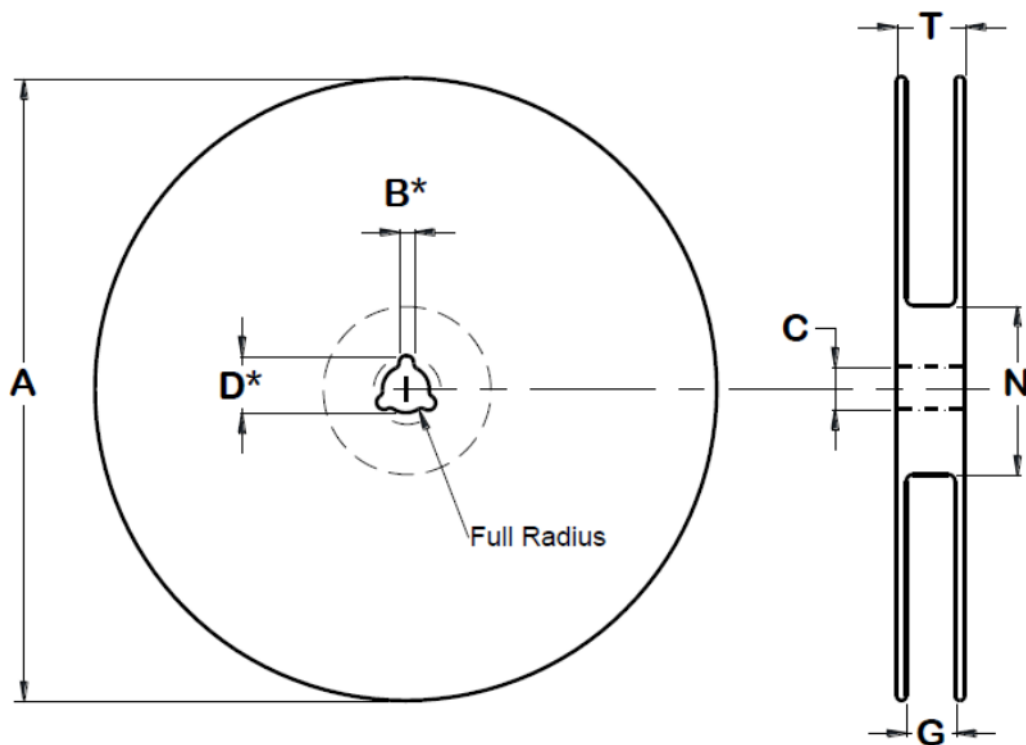
### 6-2. Embossed Carrier Tape Specification



Unit: mm

Dimension	W	A0	B0	D	E	F	K	P	P0	P2	t	W
Values	8 mm	2.05 ±0.10	3.75 ±0.20	1.50 ±0.10	1.75 ±0.10	3.5 ±0.05	1.32 ±0.10	4.0 ±0.10	4.0 ±0.10	2.0 ±0.05	0.23 ±0.02	8.0 +0.3 / -0.1
A0 / B0 / K0	Determined by Component Size. The Clearance Between the Component And The Cavity Must Comply to The Rotational And Lateral Movement Requirement Provided in Figures in The "Maximum Component Movement in Tape Pocket" Section.											

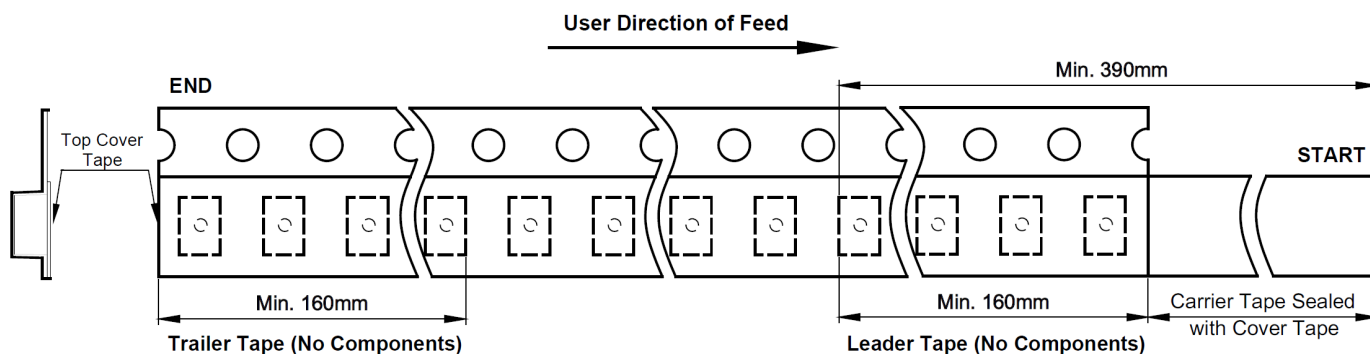
### 6-3. Surface Mount Reel Specification



Unit: mm

Dimension	Tape Width	Reel Size	A	B	C	D	N	G	T
Values	8 mm	7"	178 ±2	2.0 +0.5/-0	13 +0.5/-0.2	20.5 ±0.2	55 ±5	8.4 +1.5/-0.0	14.4

### 6-4. Tape Leader and Trailer Specification



## 7. Ordering Information

Part Number	Marking Code	Quantity	Component Package	Packing
RB501V-40	S7	3,000 PCS	SOD323FL	Tape @ Reel - 8mm tape / 7" Reel

### Marking Code



## 8. Version

### 8-1. History

Version	Date	File No.	Recording	Basis
A	12-Jul-2018	F21852S	New Create	Market
B	17-Mar-2019		Update Company Info.	System
2.0	24-Dec-2021		Update Version	System