



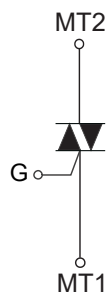
MAC97A6SQ

BI-Directional Triode Thyristor

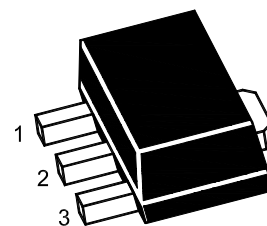
Features

- Reverse Blocking Thyristors
- Sensitive Gate Silicon Controlled Rectifiers

Equivalent Circuit



SOT-89



1.MT1 2.MT2 3.G

Marking Code: 97A6

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Peak Repetitive Off-State Voltage	V_{DRM}	400	V
On-State RMS Current	$I_{\text{T(RMS)}}$	0.6	A
Peak Non-Repetitive Surge Current ($t=20\text{ms}$)	I_{TSM}	8	A
Circuit Fusing Considerations ($t = 8.3\text{ms}$)	I^2t	0.3	A^2s
Forward Peak Gate Power ($t = 2 \mu\text{s max}$)	P_{GM}	5	W
Forward Average Gate Power ($t = 2 \mu\text{s max}$)	$P_{\text{G(AV)}}$	0.1	W
Peak Gate Current — Forward ($t = 2 \mu\text{s max}$)	I_{GM}	1	A
Peak Gate Voltage — Reverse ($t = 2 \mu\text{s max}$)	V_{GRM}	5	V
Operating Junction Temperature Range	T_{J}	-40 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-40 to +150	$^{\circ}\text{C}$



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Electrical Characteristics (T_A=25°C)

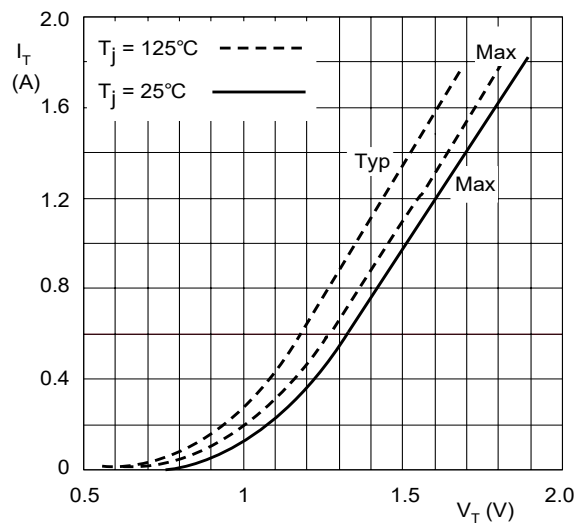
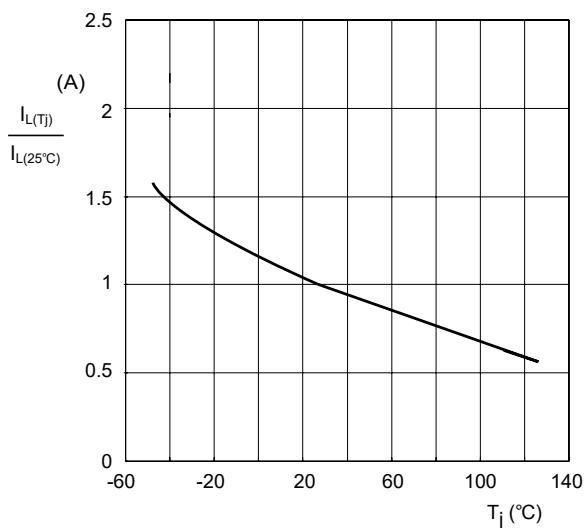
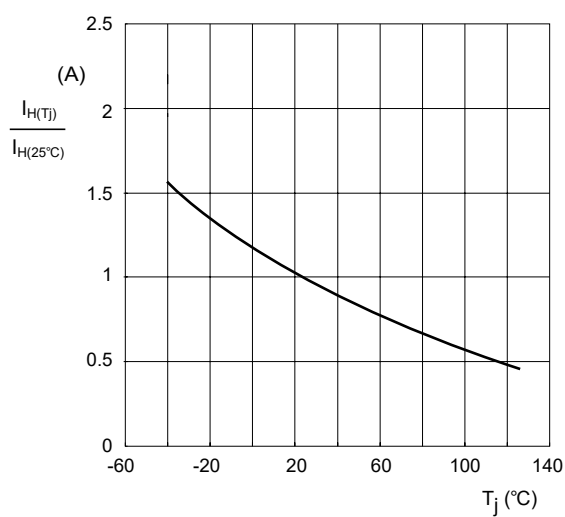
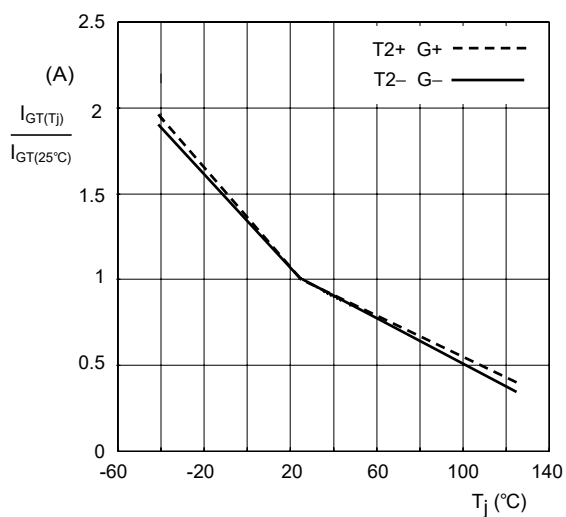
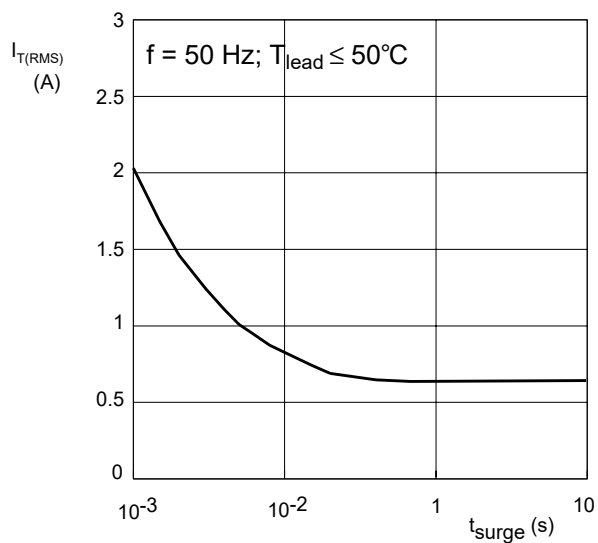
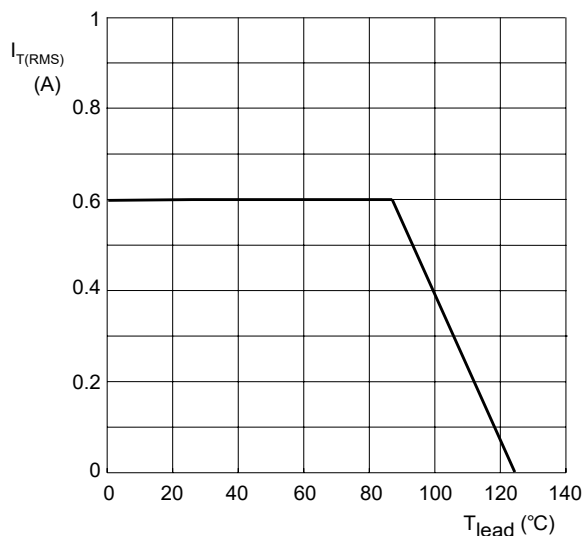
Parameter		Symbol	Typ.	Max.	Unit
Peak Forward On-State Voltage at I _{TM} = 0.85 A		V _{TM}	1.4	1.9	V
Gate Trigger Current at V _D = 12 V, I _T = 0.1 A	T2+,G+	I _{GT}	--	5	mA
	T2+,G-		--	-5	
	T2-,G-		--	-5	
Gate Trigger Voltage at V _D = 12 V, I _T = 0.1 A	T2+,G+	V _{GT}	0.8	1.2	V
	T2+,G-		-0.8	-1.2	
	T2-,G-		-0.8	-1.2	
Holding Current at V _D = 12 V, I _{GT} = 0.06 A	T2+,G+	I _H	1	10	mA
	T2-,G-		-1	-10	
Latch Current at V _D = 12 V, I _{GT} = 0.06 A	T2+,G+	I _L	--	10	mA
	T2+,G-		--	-10	
	T2-,G-		--	-10	



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BI-Directional Triode Thyristor

Typical Characteristic Curves





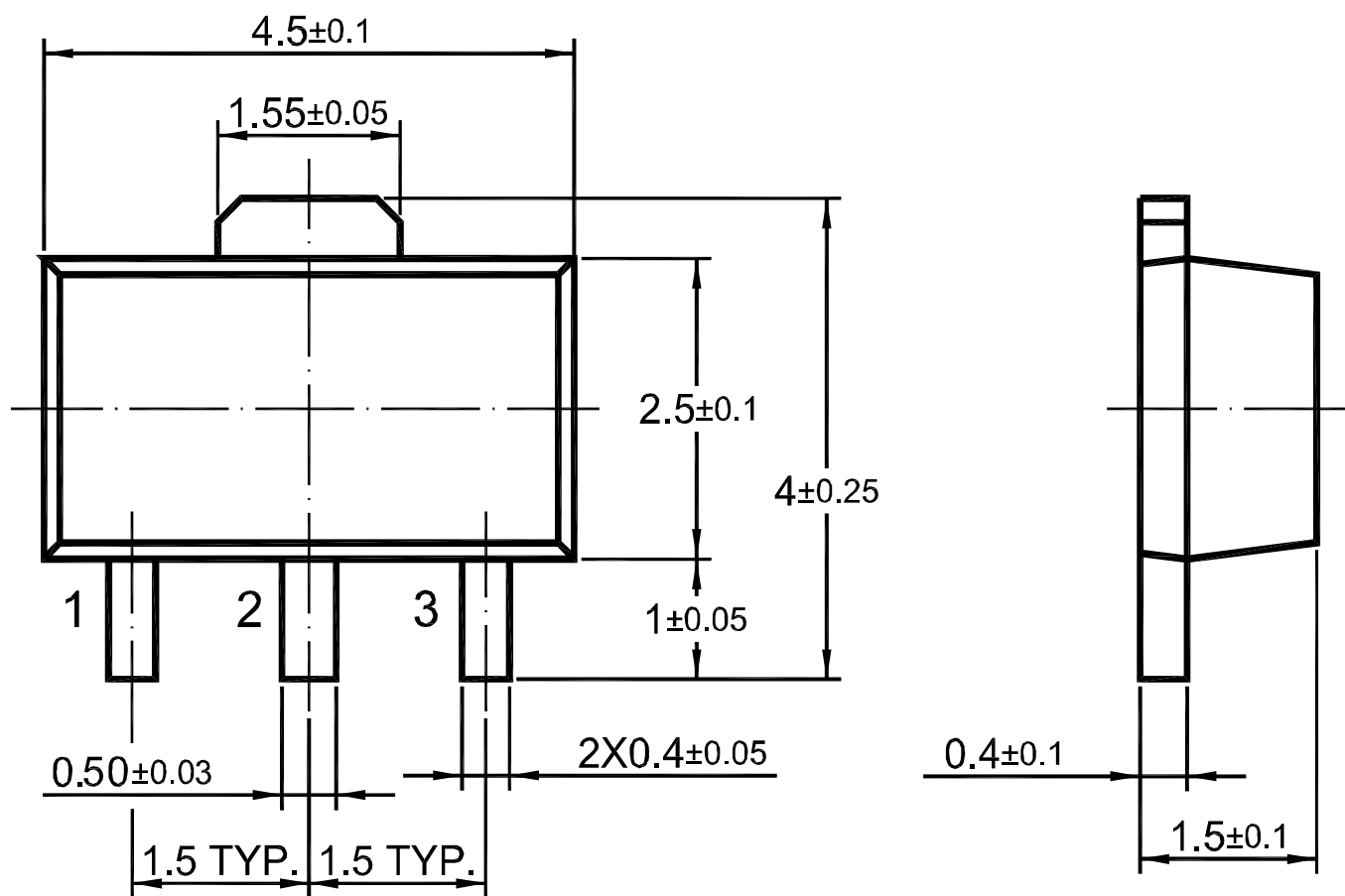
MAC97A6SQ

BI-Directional Triode Thyristor

Package Outline

SOT-89

Dimensions in mm



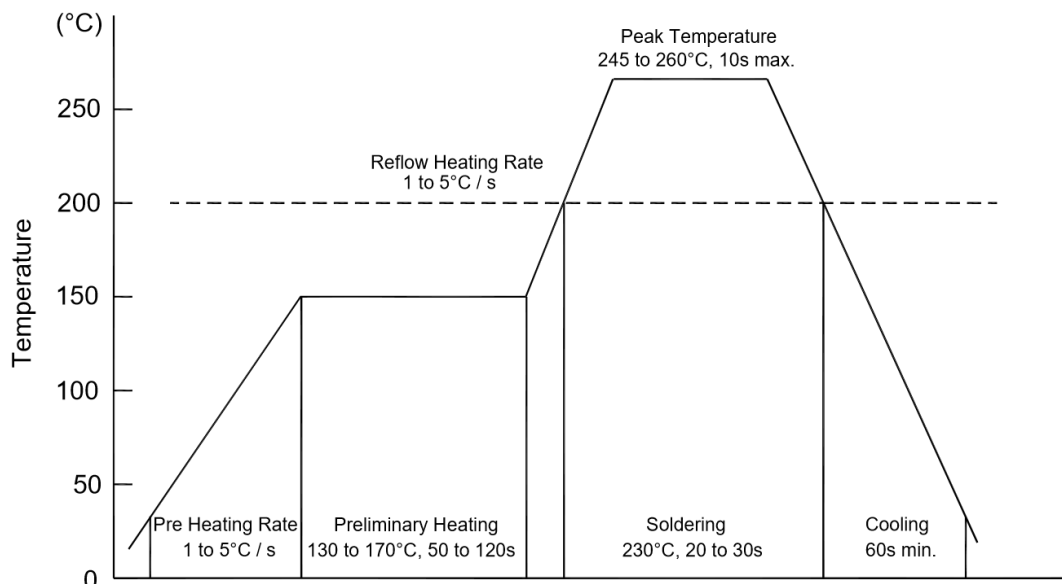
Ordering Information

Device	Package	Shipping
MAC97A6SQ	SOT-89	1,000PCS/Reel&7inches
		3,000PCS/Reel&13inches



Conditions of Soldering and Storage

◆ Recommended condition of reflow soldering



Recommended peak temperature is over 245 °C. If peak temperature is below 245 °C, you may adjust the following parameters:

- Time length of peak temperature (longer)
- Time length of soldering (longer)
- Thickness of solder paste (thicker)

◆ Conditions of hand soldering

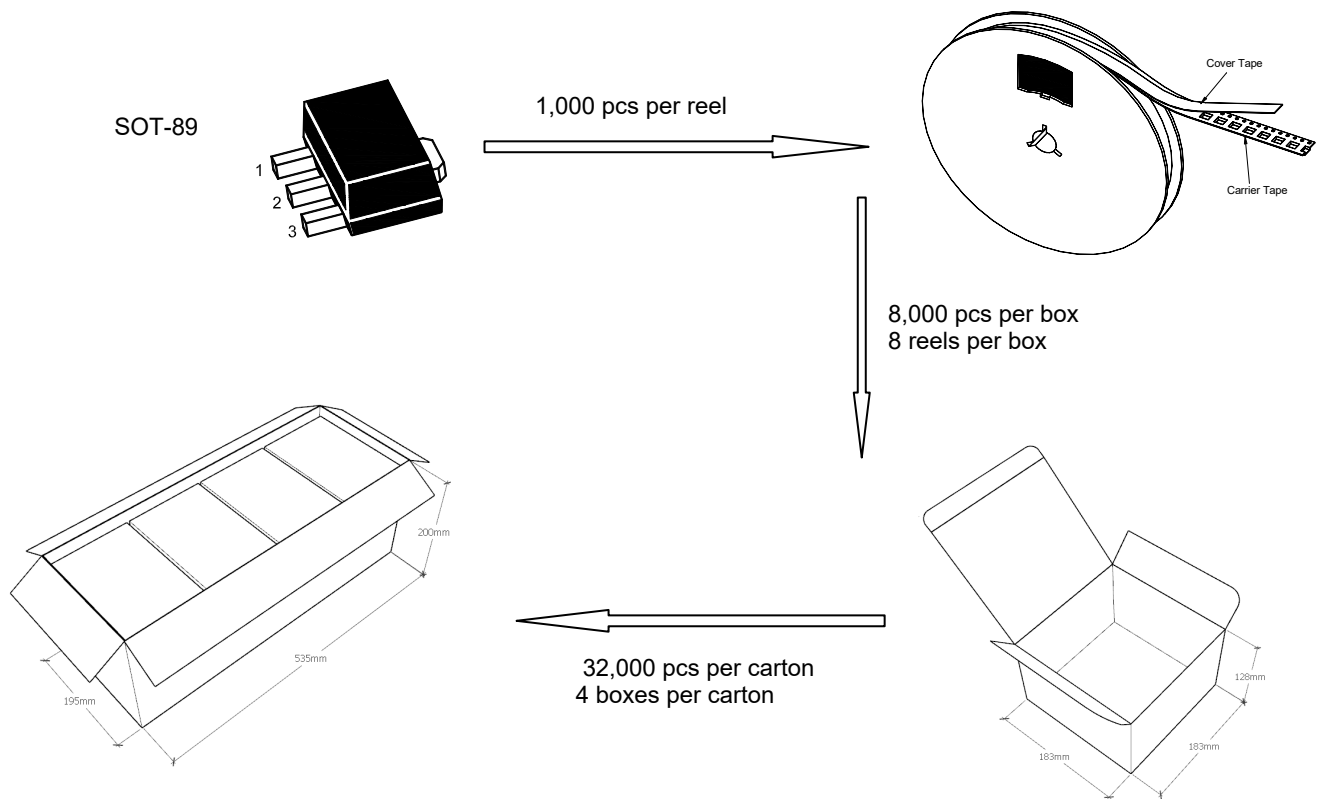
- Temperature: 370 °C
- Time: 3s max.
- Times: one time

◆ Storage conditions

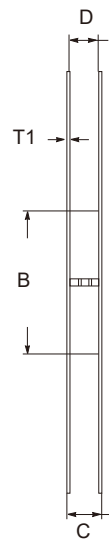
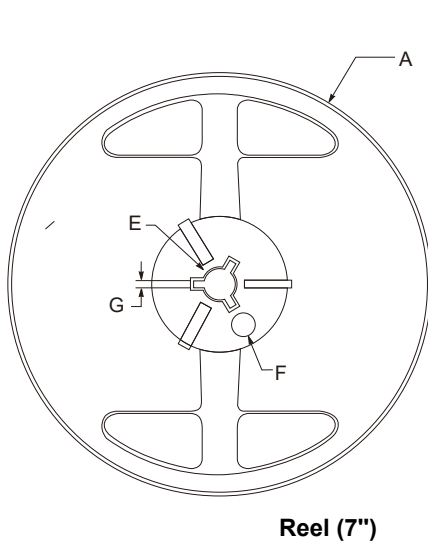
- **Temperature**
5 to 40 °C
- **Humidity**
30 to 80% RH
- **Recommended period**
One year after manufacturing

Package Specifications

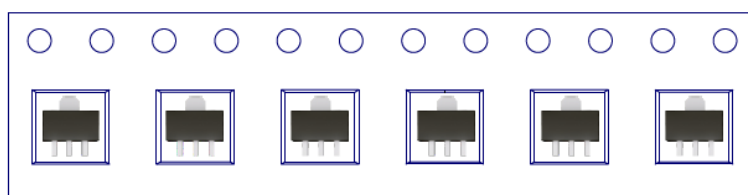
- The method of packaging (1,000PCS/Reel&7inches)



◆ Embossed tape and reel data

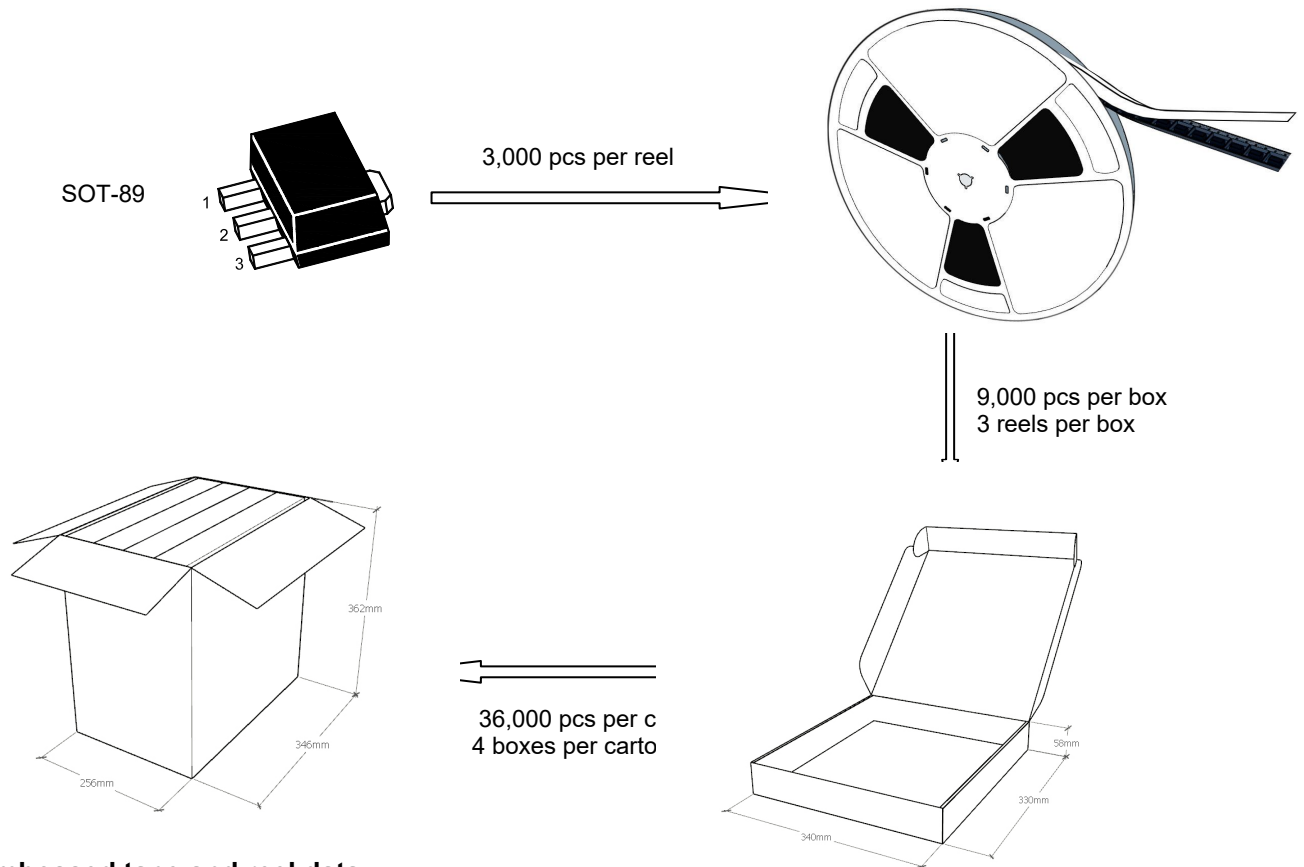


symbol	Value(unit:mm)
A	$\Phi 179\pm 1$
B	60.5 ± 0.2
C	15.3 ± 0.3
D	$12.5\sim 13.7$
E	$\Phi 13.5\pm 0.2$
F	$\Phi 10.0\pm 0.2$
G	2.7 ± 0.2
T1	1.0 ± 0.2

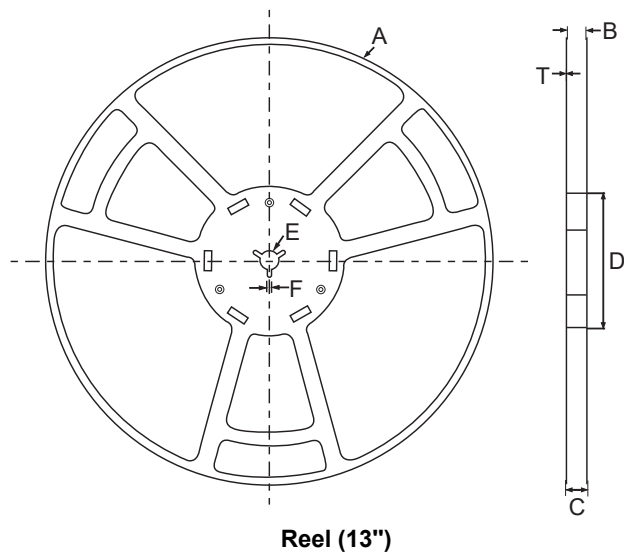


Package Specifications

- The method of packaging (3,000PCS/Reel&13inches)



◆ Embossed tape and reel data



symbol	Value(unit:mm)
A	$\Phi 330 \pm 1$
B	12.7 ± 0.5
C	16.5 ± 0.3
D	$\Phi 99.5 \pm 0.5$
E	$\Phi 13.6 \pm 0.3$
F	2.8 ± 0.3
T1	1.9 ± 0.2

