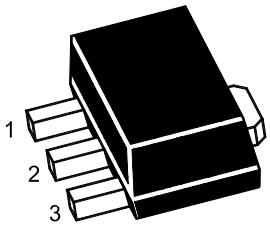
PJM03N10SQ
N-Channel Enhancement Mode Power MOSFET

Features

- Fast Switching
- Low Reverse Transfer Capacitance
- Low Gate Charge and RDS(on)
- V_{DS}= 100V,I_D= 3A
  $R_{DS(on)}$< 178mΩ @V_{GS}= 10V

SOT-89



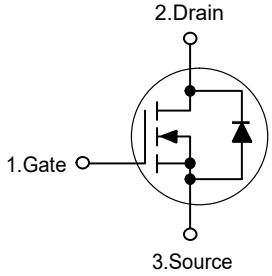
1. Gate 2.Drain 3.Source

Marking Code: 03N10

Applications

- Load Switch
- PWM Applications

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25℃ ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current-Continuous	I_D	3	A
Drain Current-Pulsed Note1	I_{DM}	20	A
Maximum Power Dissipation	P_D	1.35	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance,Junction-to-Ambient Note2	$R_{\theta JA}$	93	°C/W

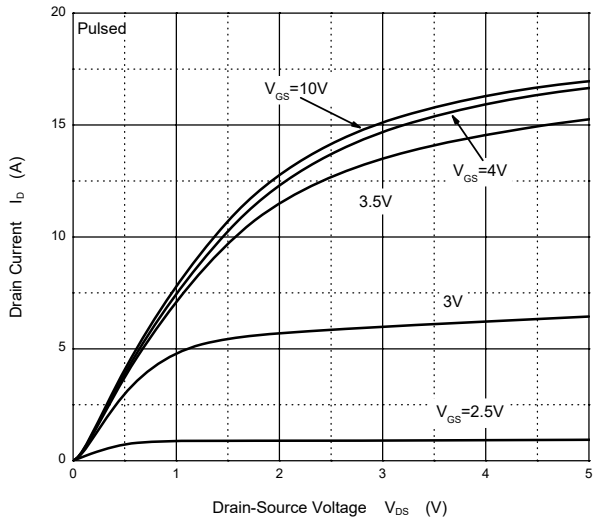
Electrical Characteristics

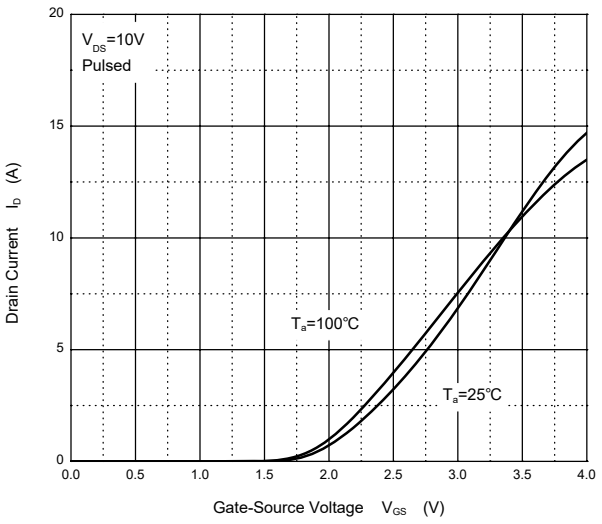
(Ta=25℃ unless otherwise specified)

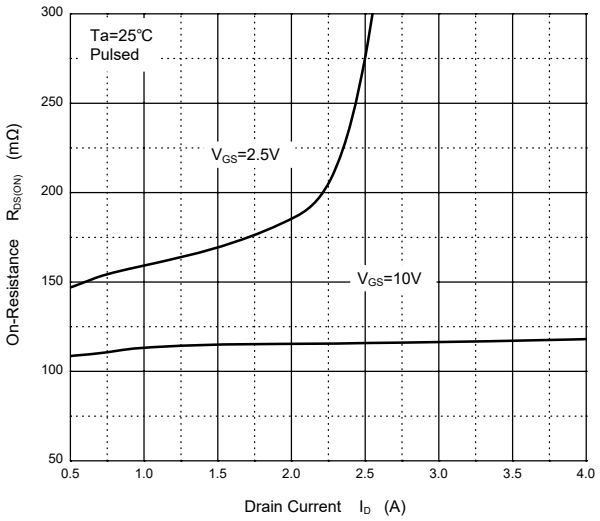
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=250μA	100	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=100V,V_{GS}=0V	--	--	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±20V,V_{DS}=0V	--	--	±100	nA
Gate Threshold Voltage Note3	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=250μA	1	--	2	V
Drain-Source On-Resistance Note3	$R_{DS(on)}$	V_{GS}=10V,I_D=3A	--	--	178	mΩ
		V_{GS}=4.5V,I_D=3A	--	--	190	mΩ
Forward Transconductance Note3	g_{FS}	V_{DS}=5V,I_D=2.9A	3	--	--	S
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=25V,V_{GS}=0V,f=1MHz	--	690	--	pF
Output Capacitance	C_{oss}		--	120	--	pF
Reverse Transfer Capacitance	C_{rss}		--	90	--	pF
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=30V, R_L=15Ω, V_{GS}=10V,R_{GEN}=2.5Ω	--	11	--	nS
Turn-on Rise Time	t_r		--	7.4	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	35	--	nS
Turn-off Fall Time	t_f		--	9.1	--	nS
Total Gate Charge	Q_g	V_{DS}=15V,I_D=4A, V_{GS}=10V	--	15.5	--	nC
Gate-Source Charge	Q_{gs}		--	3.2	--	nC
Gate-Drain Charge	Q_{gd}		--	4.7	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage Note3	V_{SD}	V_{GS}=0V,I_S=3A	--	--	1.5	V
Diode Forward Current Note2	I_S		--	--	3	A

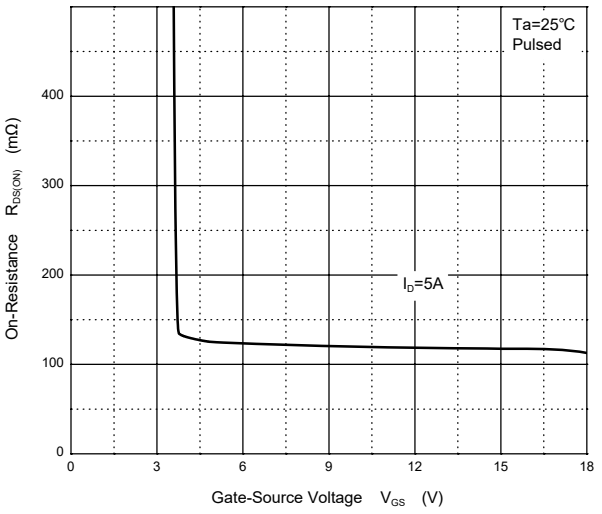
Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t ≤ 10 sec.
3. Pulse Test: Pulse width≤300μs, duty cycle≤2%..

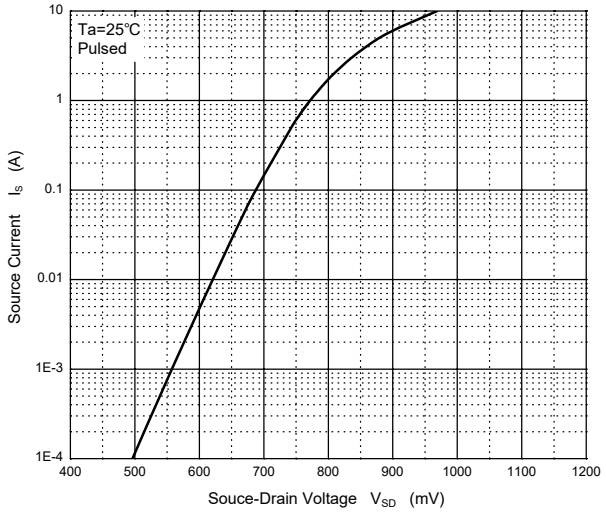
Typical Characteristic Curves

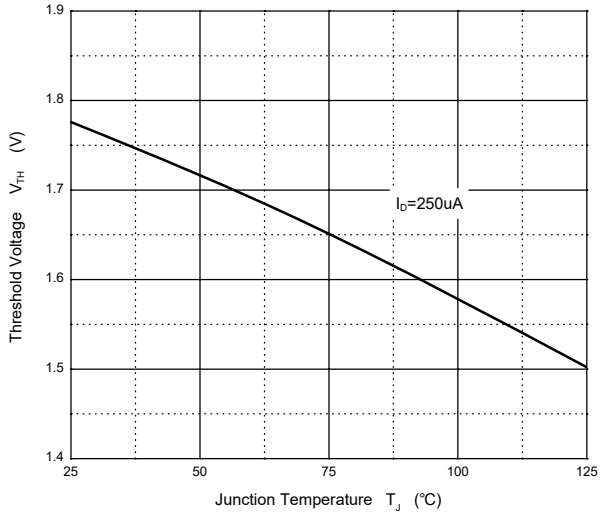








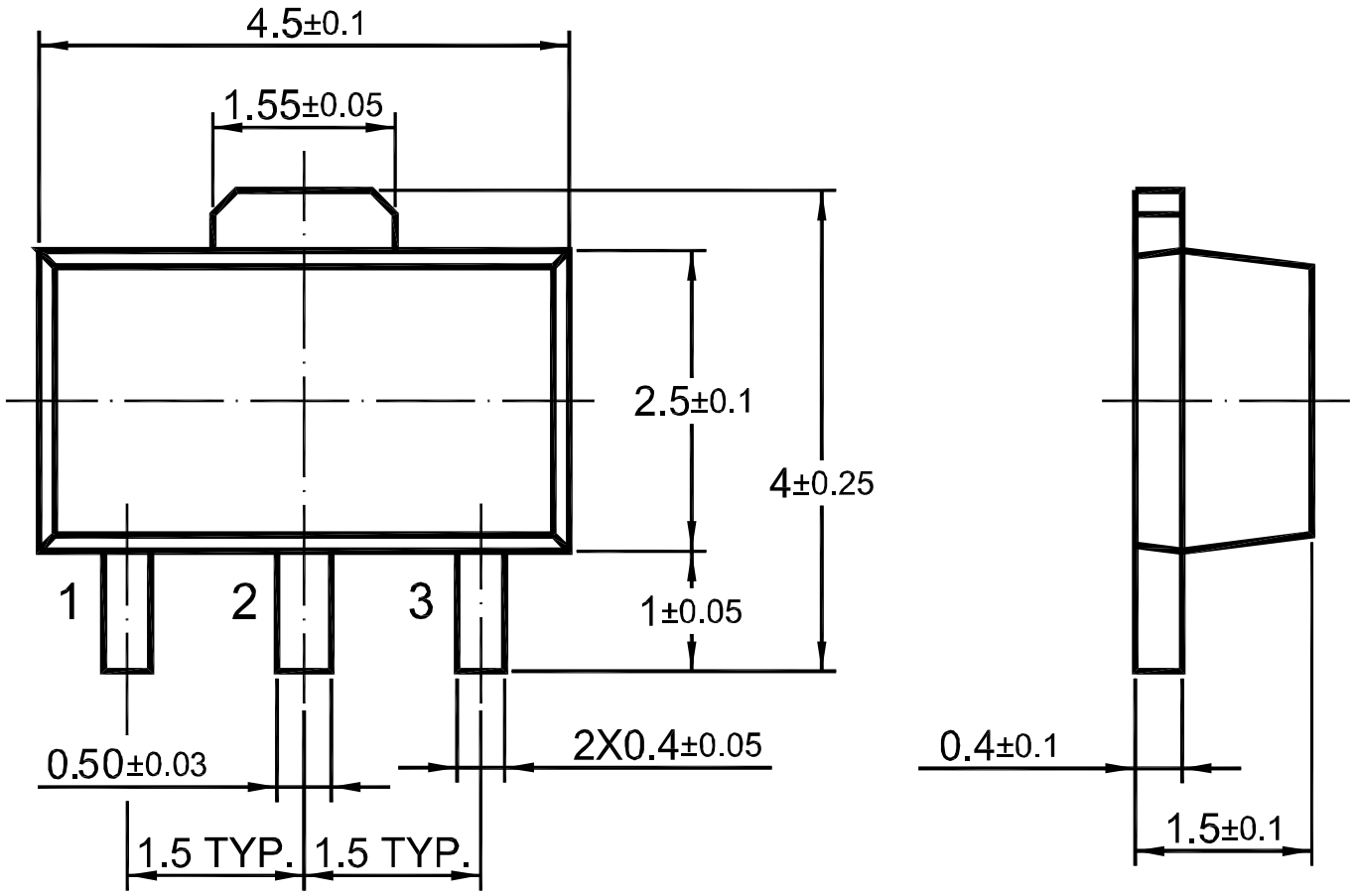




Package Outline

SOT-89

Dimensions in mm

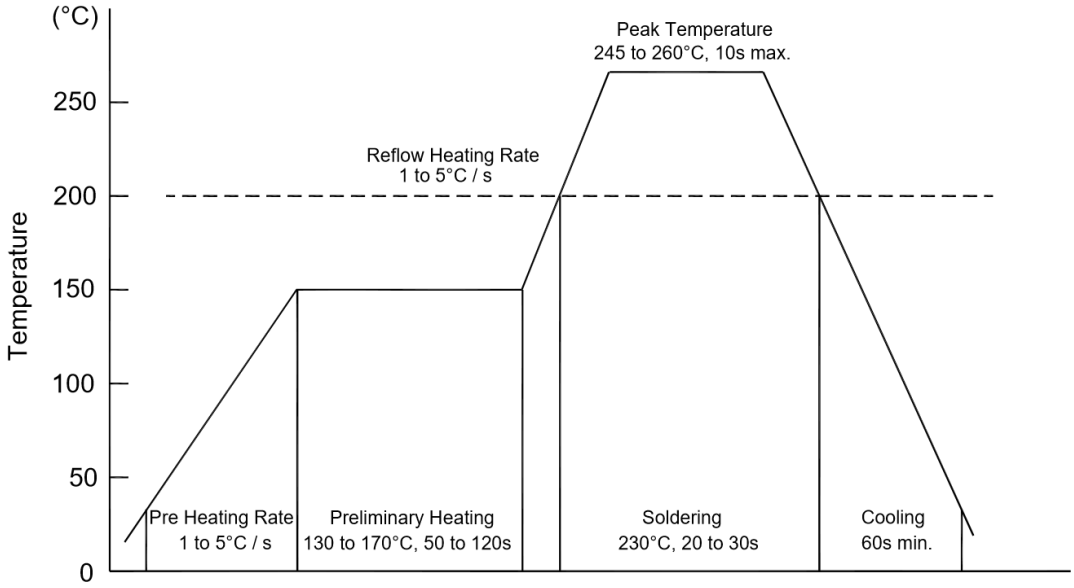


Ordering Information

Device	Package	Shipping
PJM03N10SQ	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 ^{O}C. If peak temperature is below 245 ^{O}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

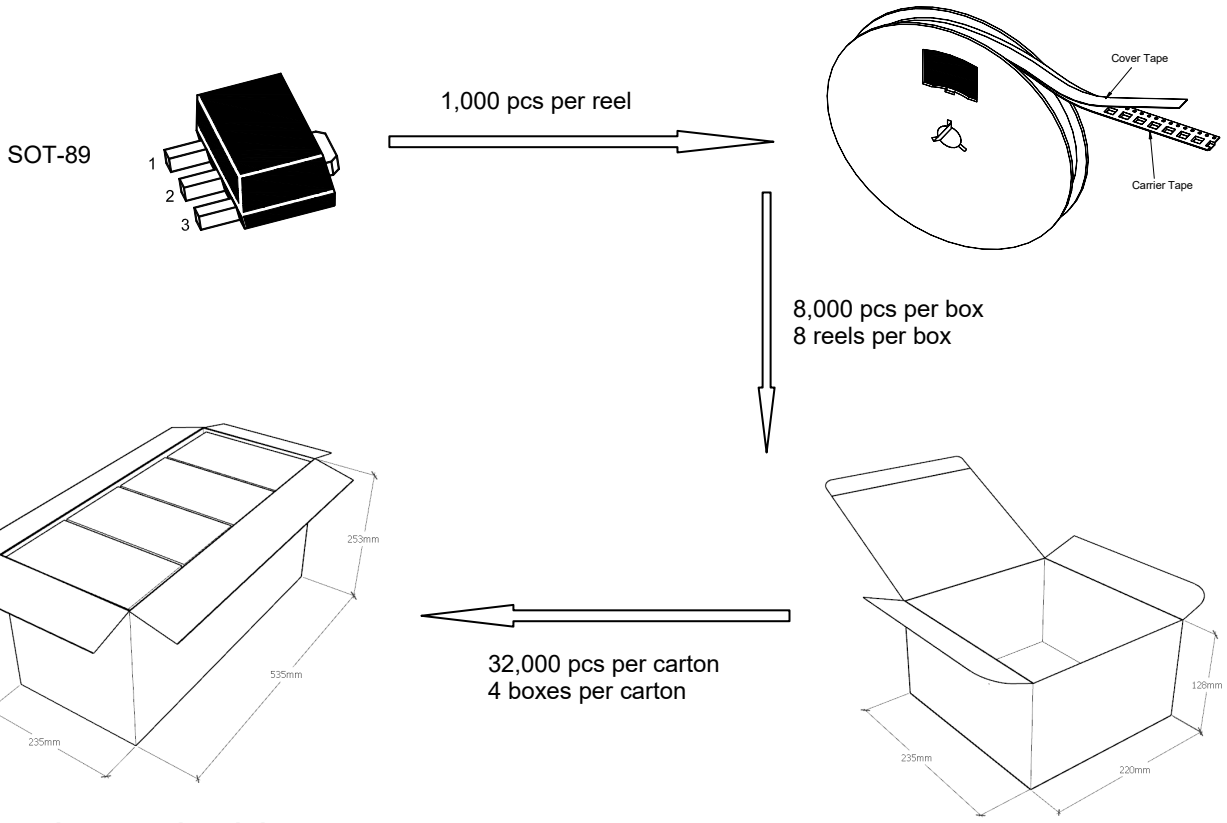
- Temperature: 370 ^{O}C
- Time: 3s max.
- Times: one time

◆ Storage conditions

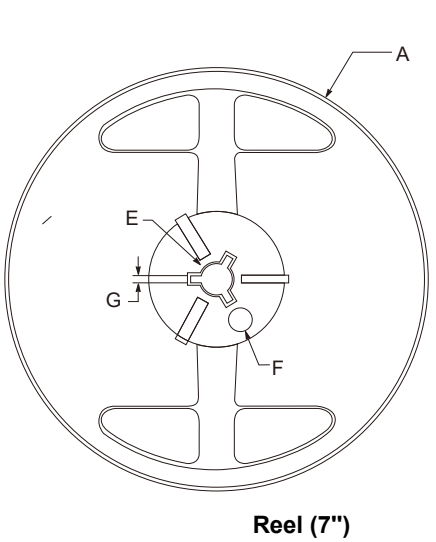
- **Temperature**
  5 to 40 ^{O}C
- **Humidity**
  30 to 80% RH
- **Recommended period**
  One year after manufacturing

Package Specifications

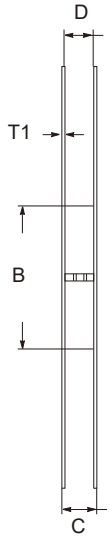
- The method of packaging (1,000PCS/Reel&7inches)



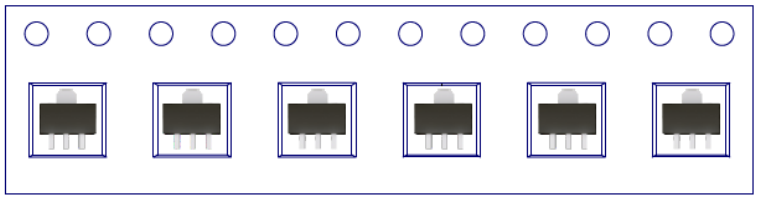
◆ **Embossed tape and reel data**



Reel (7")

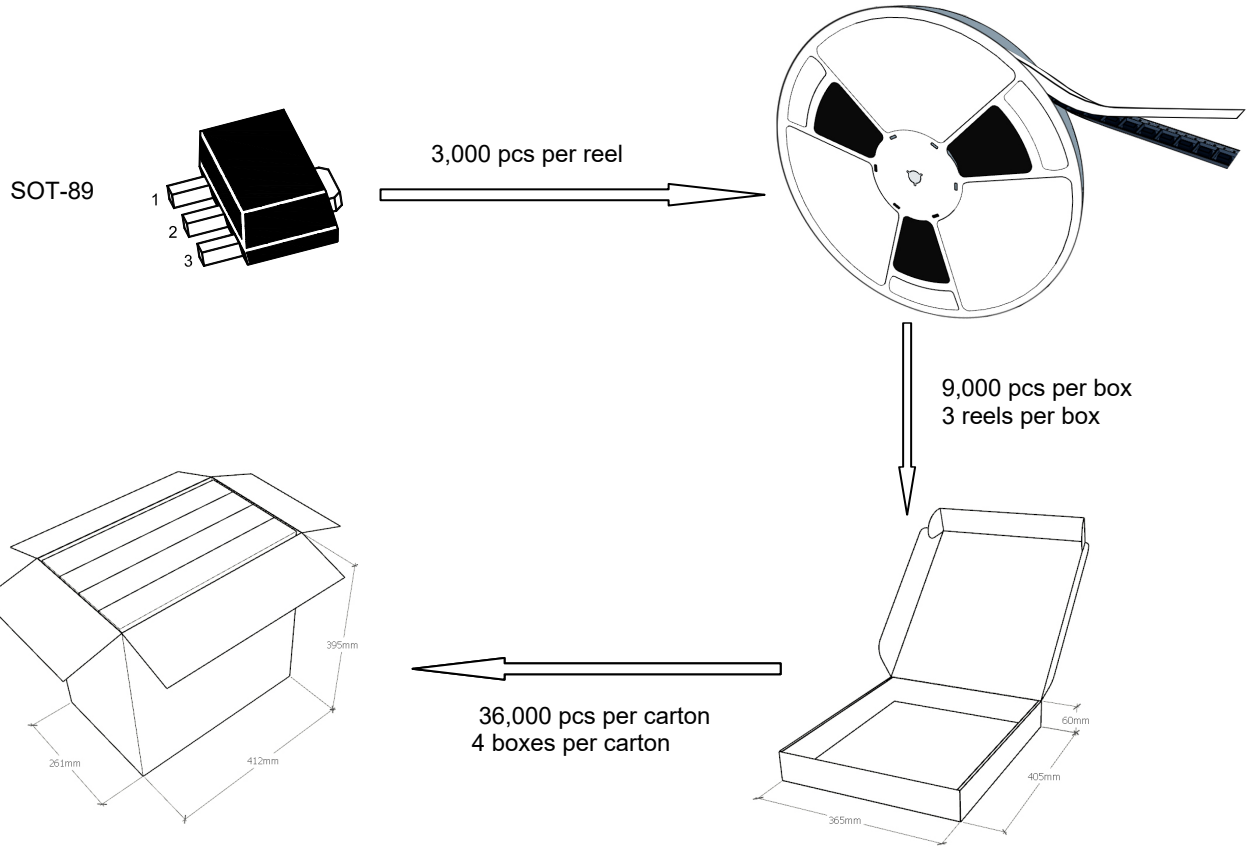


symbol	Value(unit:mm)
A	Φ179±1
B	60.5±0.2
C	15.3±0.3
D	12.5~13.7
E	Φ13.5±0.2
F	Φ10.0±0.2
G	2.7±0.2
T1	1.0±0.2

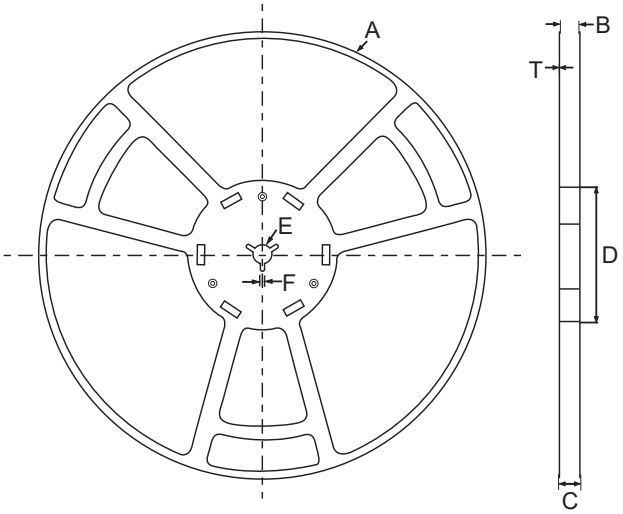


Package Specifications

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



◆ **Embossed tape and reel data**



Reel (13")

symbol	Value(unit:mm)
A	Φ330±1
B	12.7±0.5
C	16.5±0.3
D	Φ99.5±0.5
E	Φ13.6±0.3
F	2.8±0.3
T1	1.9±0.2