



PJM07DN30PA

Dual N-Channel Enhancement Mode Power MOSFET

Product Summary

- $V_{DS} = 30V, I_D = 7A$
- $R_{DS(on)} < 41m\Omega @ V_{GS} = 10V$
- $R_{DS(on)} < 45m\Omega @ V_{GS} = 4.5V$

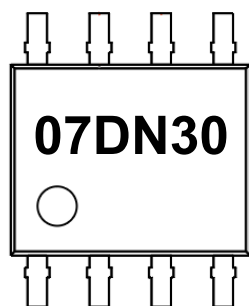
Features

- Advanced Trench Technology
- 100% Avalanche Tested
- RoHS and Reach Compliant
- Halogen and Antimony Free
- Moisture Sensitivity Level 3

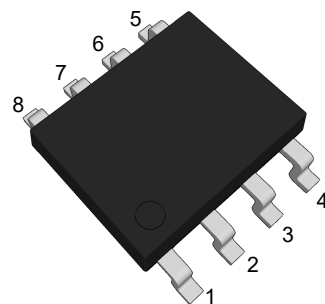
Application

- Load Switch
- PWM Applications
- Power Management

Marking Code



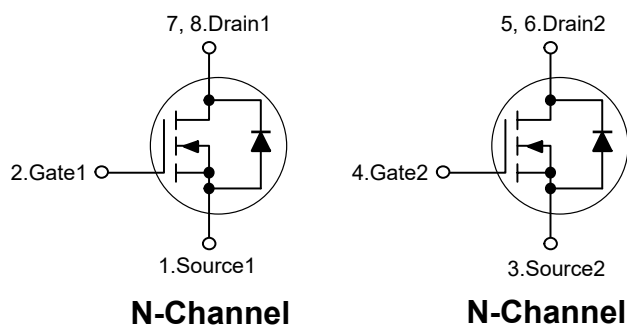
SOP-8



(Top View)

Pin	Description	Pin	Description
1	Source1	4	Gate2
2	Gate1	5,6	Drain2
3	Source2	7,8	Drain1

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous	I_D	7	A
Drain Current-Pulsed ^{Note1}	I_{DM}	30	A
Maximum Power Dissipation ^{Note2}	P_D	2	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance, Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	62.5	°C/W
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Electrical Characteristics

(T_J=25°C 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	30	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V	--	--	1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±12V, V _{DS} =0V	--	--	±100	nA
Gate Threshold Voltage ^{Note3}	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.7	0.9	1.4	V
Drain-Source On-Resistance ^{Note2}	R _{DS(on)}	V _{GS} =10V, I _D =5.8A	--	--	41	mΩ
		V _{GS} =4.5V, I _D =5A	--	--	45	mΩ
Forward Transconductance ^{Note3}	g _{FS}	V _{DS} =5V, I _D =5A	10	--	--	S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =15V, V _{GS} =0V, f=1MHz	--	702	--	pF
Output Capacitance	C _{oss}		--	66	--	pF
Reverse Transfer Capacitance	C _{rss}		--	52	--	pF
Total Gate Charge	Q _g	V _{DS} =15V, I _D =5.8A, V _{GS} =4.5V	--	9.5	--	nC
Gate-Source Charge	Q _{gs}		--	1.5	--	nC
Gate-Drain Charge	Q _{gd}		--	3	--	nC
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =15V, R _L =2.7Ω V _{GS} =10V, R _{GEN} =3Ω	--	3.3	--	nS
Turn-on Rise Time	t _r		--	4.8	--	nS
Turn-off Delay Time	t _{d(off)}		--	26	--	nS
Turn-off Fall Time	t _f		--	4	--	nS
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	V _{SD}	V _{GS} =0V, I _S =7A	--	--	1.2	V
Diode Forward Current ^{Note2}	I _S		--	--	7	A

Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.

2. Surface mounted on a 0.5 inch² pad of 2 oz copper.

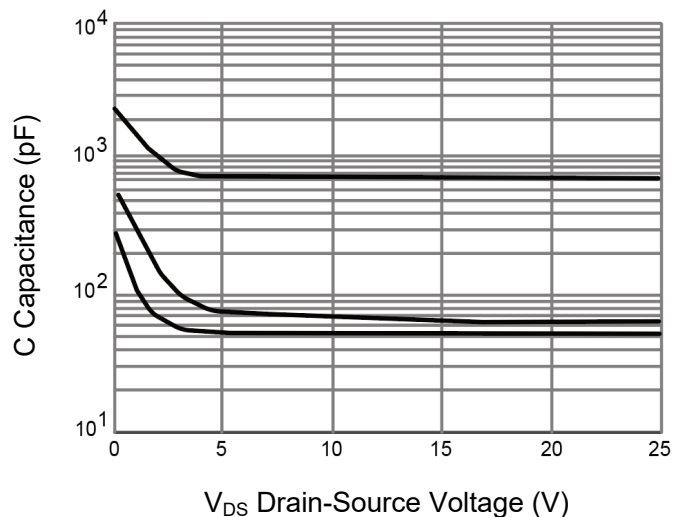
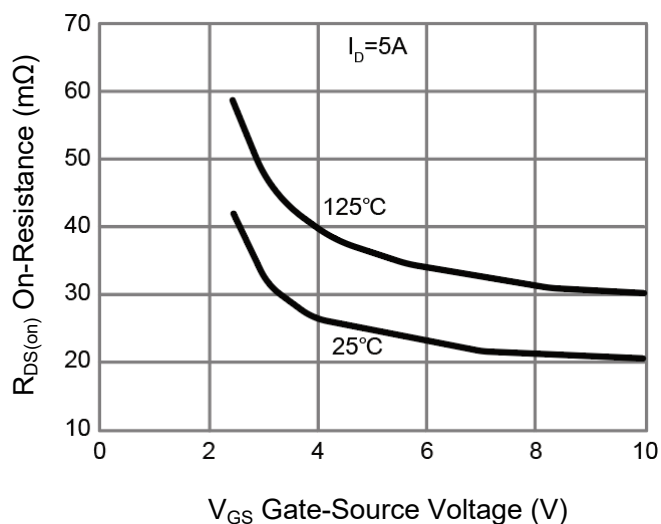
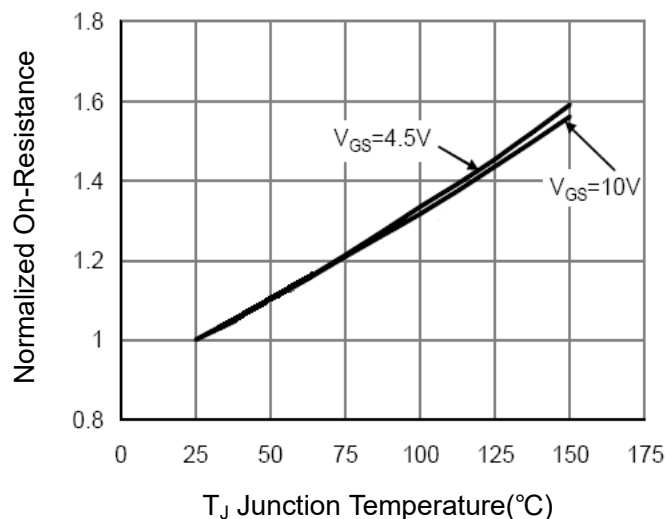
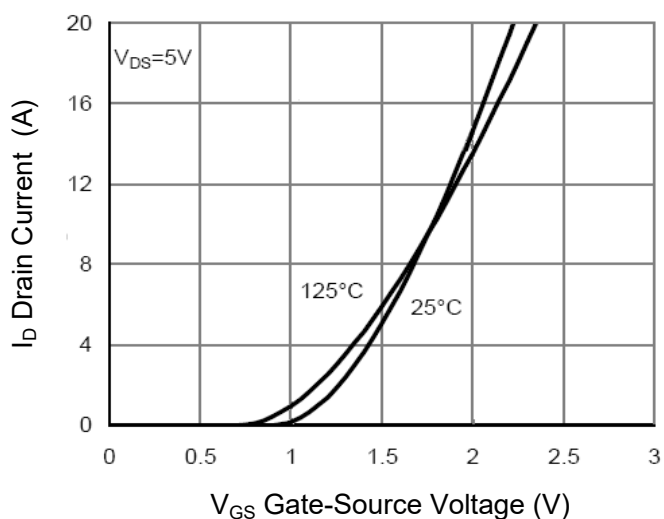
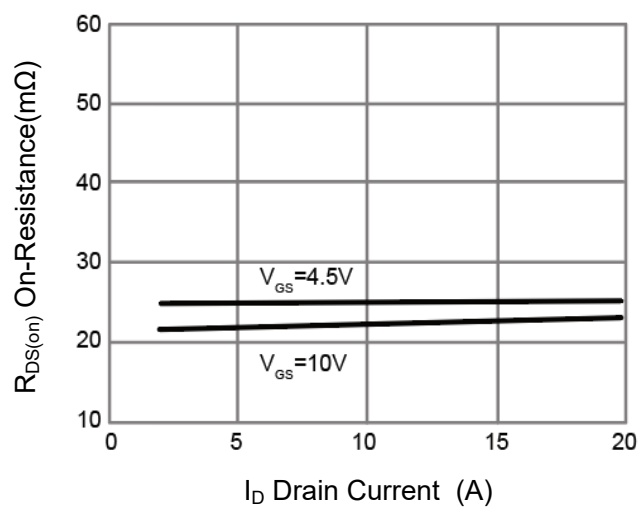
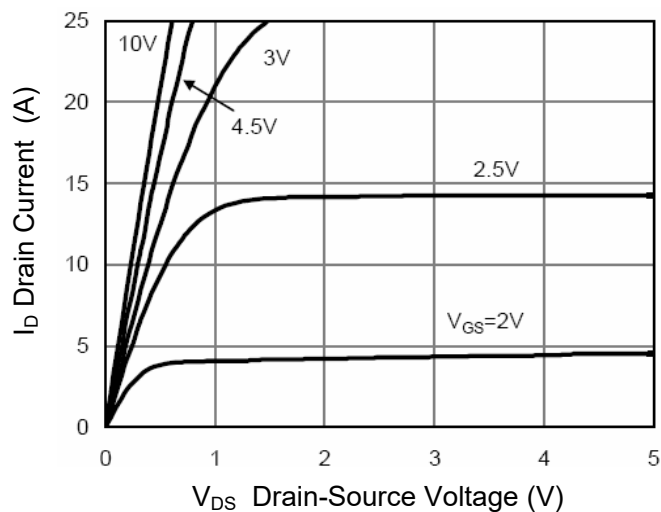
3. Pulse Test: Pulse width≤300μs, duty cycle≤2%.



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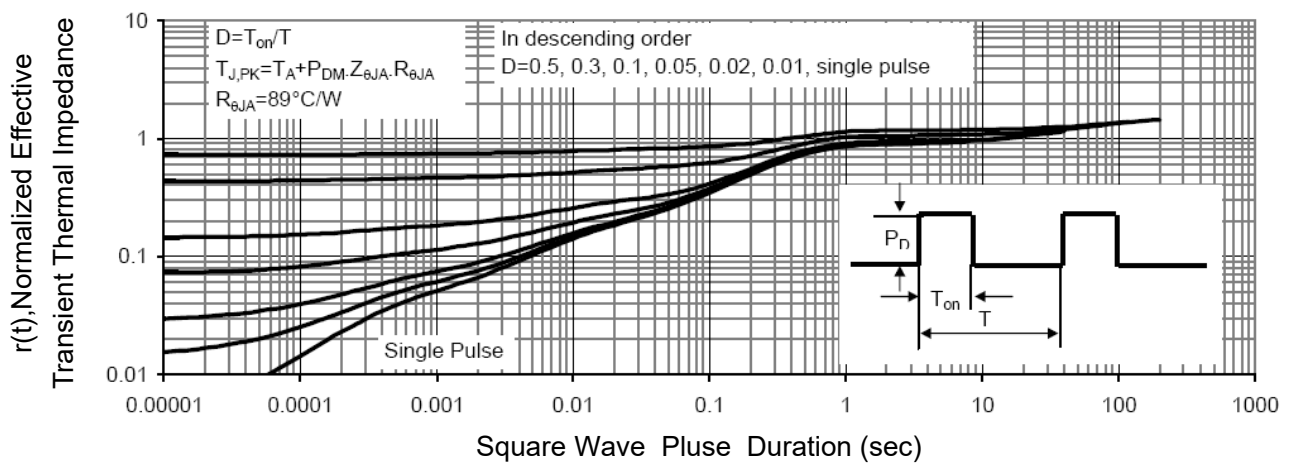
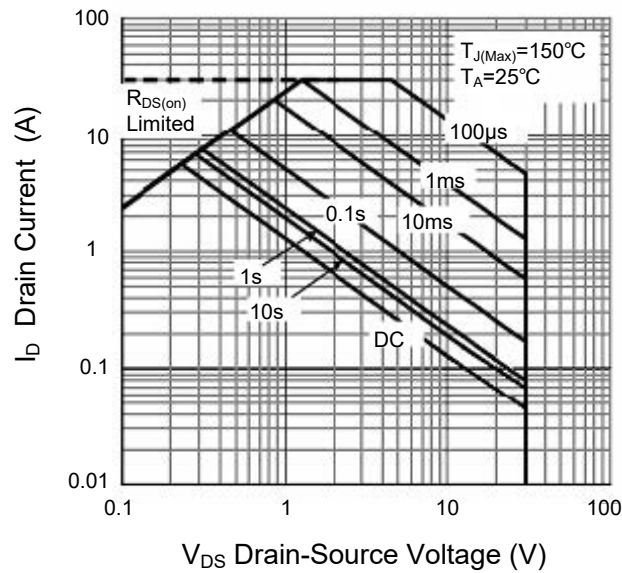
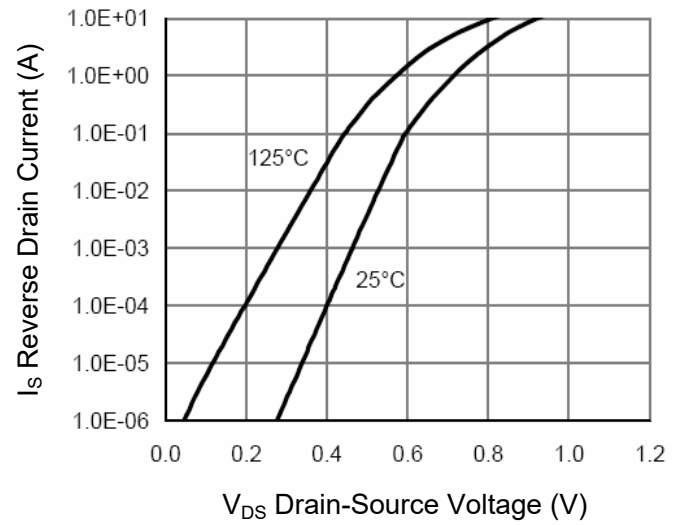
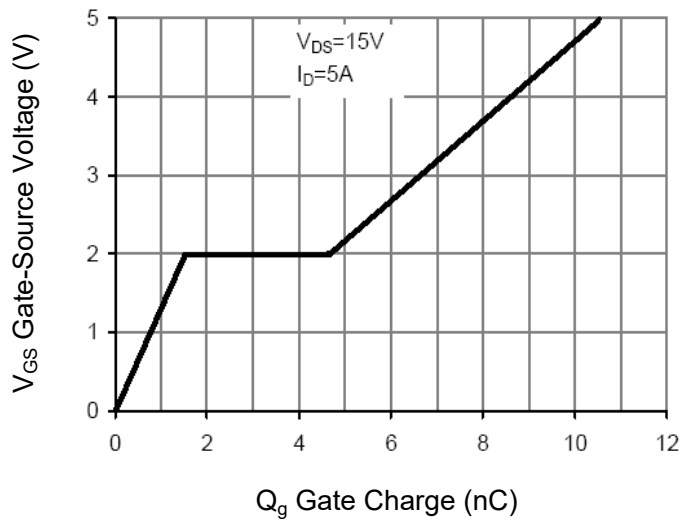
Typical Characteristic Curves





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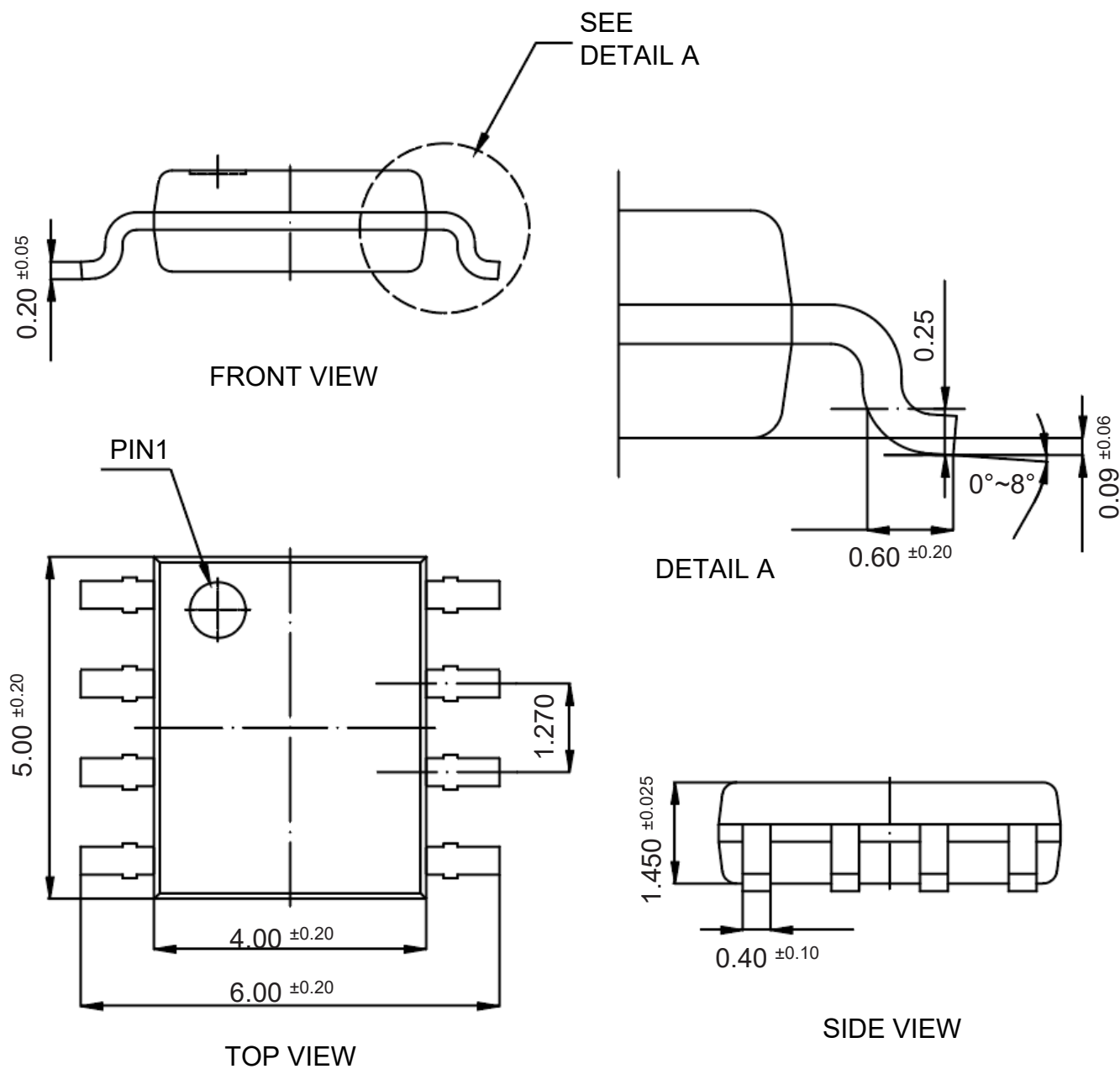
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Package Outline

SOP-8

Dimensions in mm



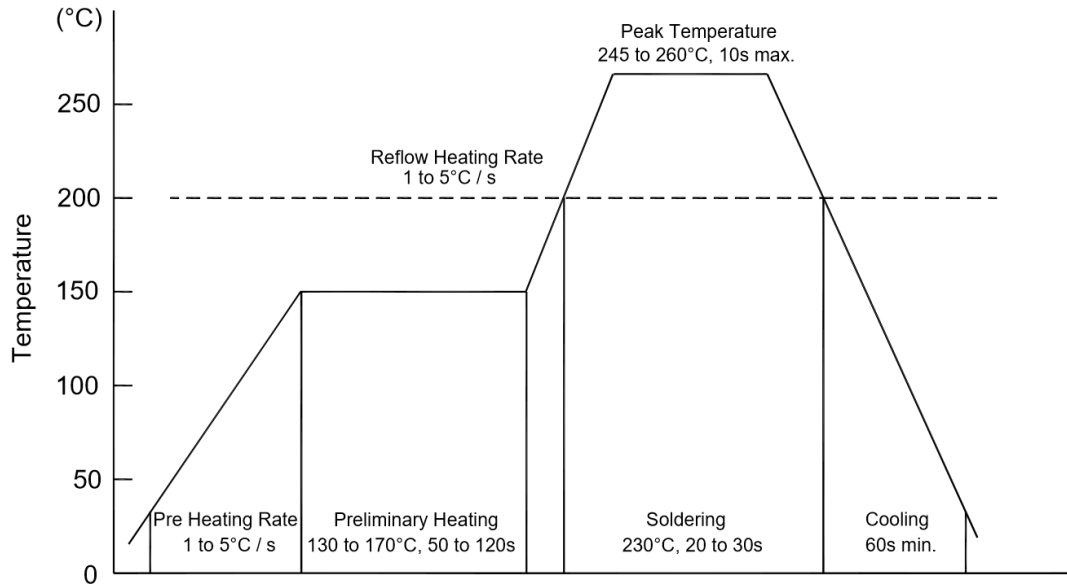
Ordering Information

Device	Package	Shipping
PJM07DN30PA	SOP-8	4,000PCS/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: 300°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

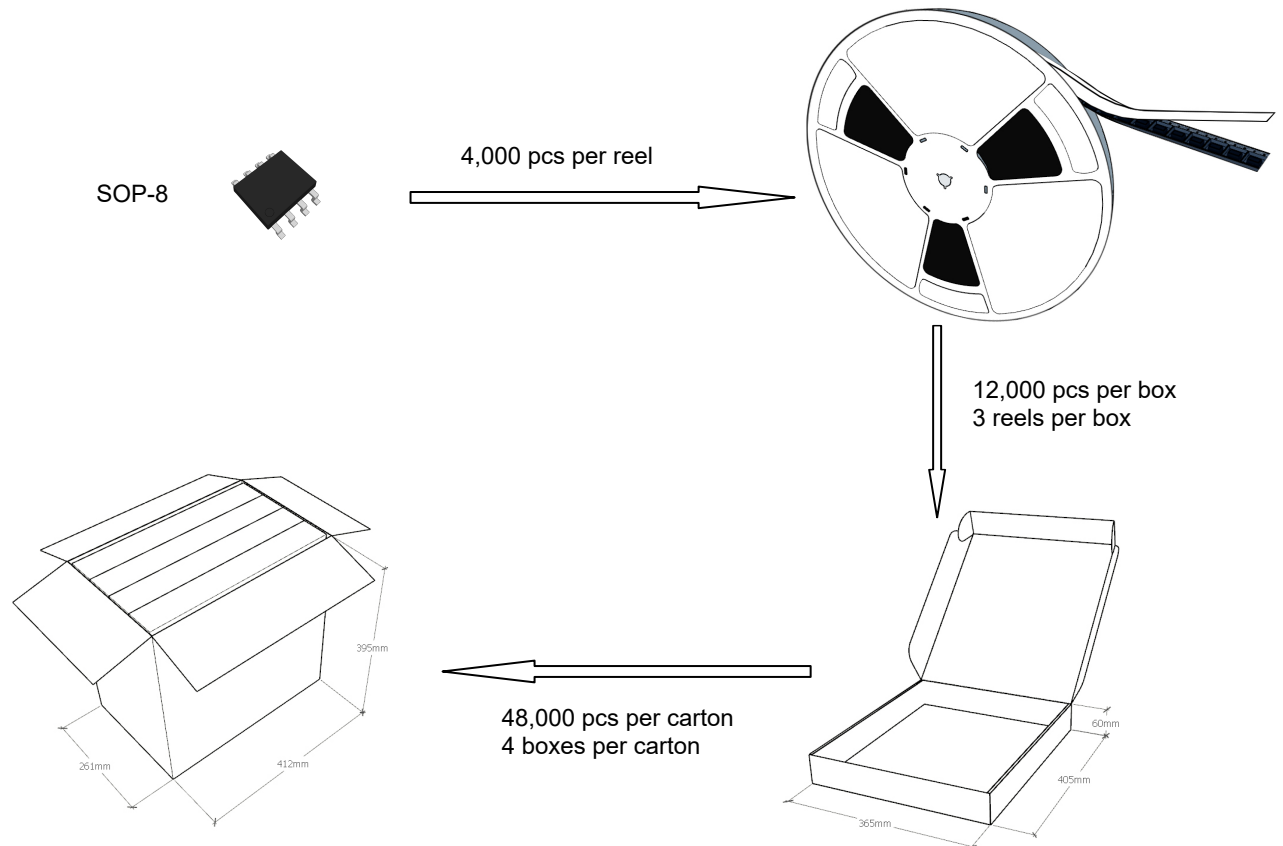


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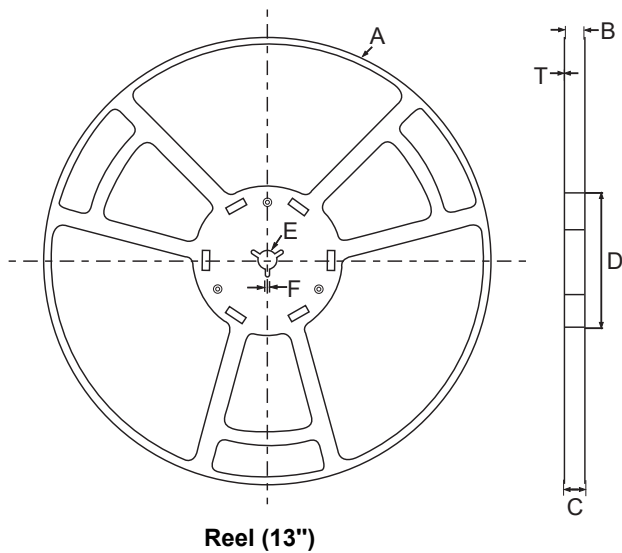
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Package Specifications

- The method of packaging



◆ 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
T	1.9 ± 0.2

