



PJM2301PSA

P- Enhancement Mode Field Effect Transistor

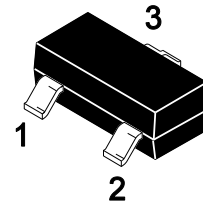
Features

- ◆ High power and current handing capability
- ◆ Halogen free product is acquired
- ◆ Surface mount package

Applications

- ◆ Battery protection
- ◆ Load switch
- ◆ Power management

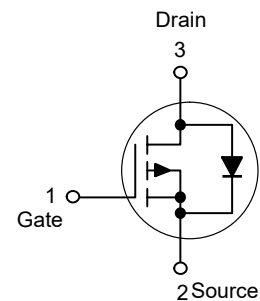
SOT-23



1. Gate 2.Source 3.Drain

Marking: M01

Schematic Diagram



Absolute Maximum Ratings

Ratings at $T_A = 25^\circ\text{C}$ unless otherwise specified.

Parameter	Symbol	Value	Units
Drain-Source Voltage	$-V_{DS}$	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	$-I_D$	2.8	A
Pulsed Drain Current ^{Note1}	$-I_{DM}$	10	
Power Dissipation	P_D	1.25	W
Junction and Storage Temperature Range	T_J, T_{STG}	150, -55 to 150	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Typ.	Units
Maximum Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	100	$^\circ\text{C/W}$



Electrical Characteristics

T_A=25°C unless otherwise noted

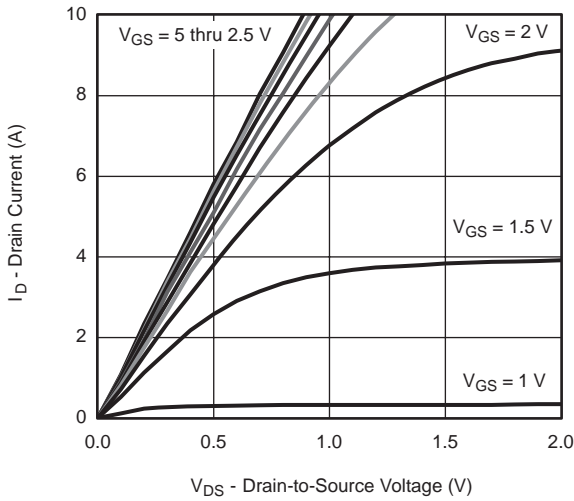
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	-V _{(BR)DSS}	V _{GS} = 0 V, I _D = - 250 μA	20			V
Gate-Source Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ± 8 V			±100	nA
Zero Gate Voltage Drain Current	-I _{DSS}	V _{DS} = - 20 V, V _{GS} = 0 V			1	μA
Gate-Source Threshold Voltage ^{Note3}	-V _{GS(th)}	V _{DS} = V _{GS} , I _D = - 250 μA	0.4		1	V
Drain-Source On-State Resistance ^{Note3}	R _{DS(on)}	V _{GS} = - 4.5 V, I _D = - 2.8 A		90	110	mΩ
		V _{GS} = - 2.5 V, I _D = - 2 A		110	140	
Forward Transconductance ^{Note3}	g _{FS}	V _{DS} = - 5 V, I _D = - 2.8 A		2		S
Dynamic characteristics						
Input Capacitance	C _{iss}	V _{DS} = - 10 V, V _{GS} = 0 V, f = 1 MHz		405		pF
Output Capacitance	C _{oss}			75		
Reverse Transfer Capacitance	C _{rss}			55		
Switching Characteristics						
Total Gate Charge	Q _g	V _{DS} = -10V, V _{GS} = -4.5V, I _D = -2.8A		5.5	10	nC
				3.3	6	
Gate-Source Charge	Q _{gs}	V _{DS} = - 10 V, V _{GS} = - 2.5 V, I _D = - 2.8 A		0.7		
Gate-Drain Charge	Q _{gd}			1.3		
Turn-On Delay Time	t _{d(on)}	V _{DD} = - 10 V, R _L = 10 Ω I _D = - 1 A, V _{GEN} = - 4.5 V, R _G = 1 Ω		11	20	ns
Rise Time	t _r			35	60	
Turn-Off Delay Time	t _{d(off)}			30	50	
Fall Time	t _f			10	20	
Source-Drain Diode characteristics						
Continuous Source-Drain Diode Current	-I _S				1.3	A
Pulse Diode Forward Current ^{Note1}	-I _{SM}				10	
Body Diode Voltage	-V _{SD}	I _S = - 1 A	0.5		1.2	V

Notes:

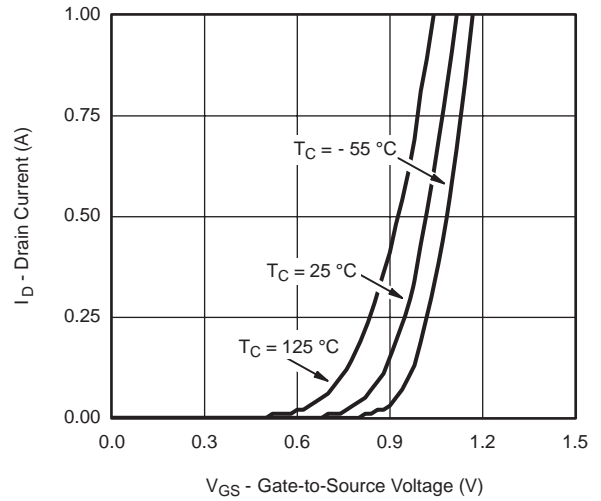
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t ≤ 10 sec.
3. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.



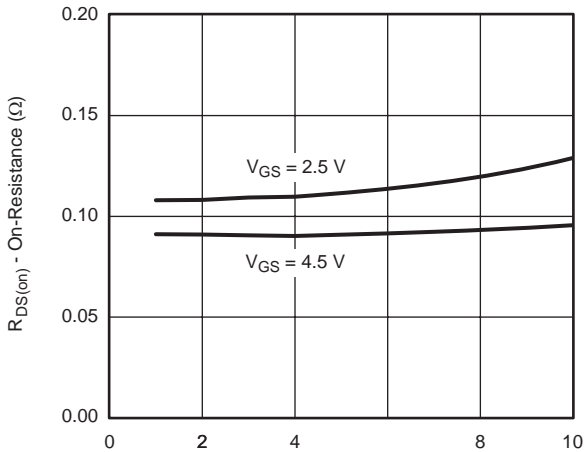
Typical Characteristics Curves



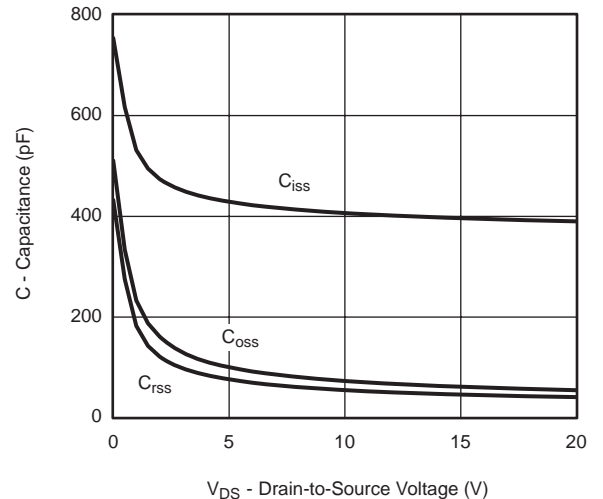
Output Characteristics



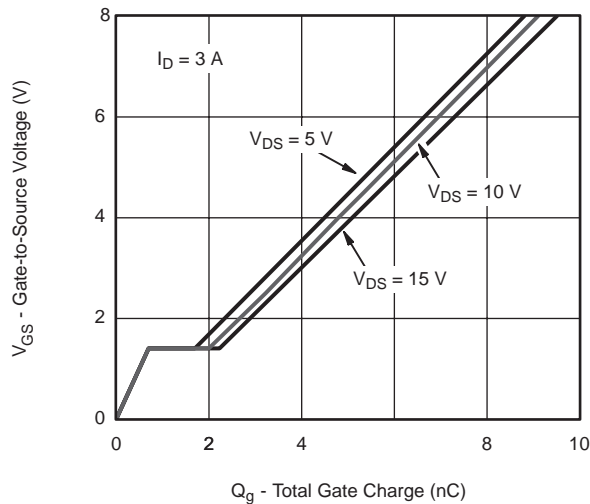
Transfer Characteristics



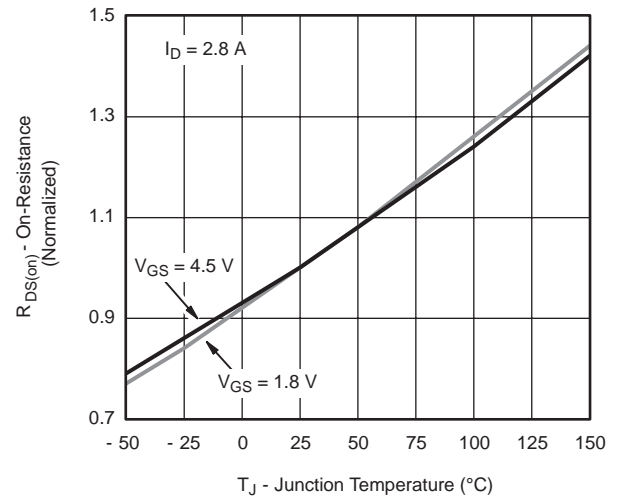
On-Resistance vs. Drain Current and Gate Voltage



Capacitance



Gate Charge

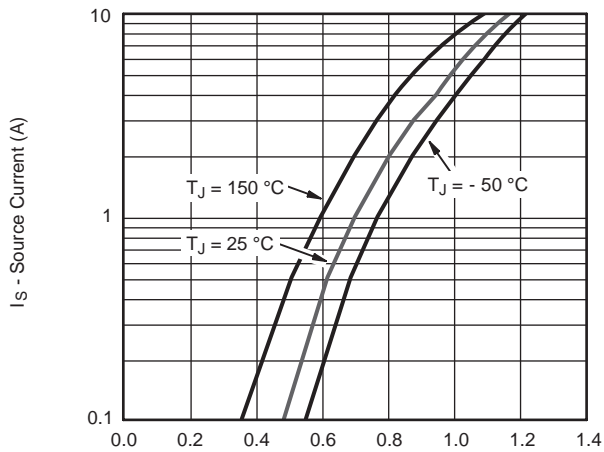


On-Resistance vs. Junction Temperature

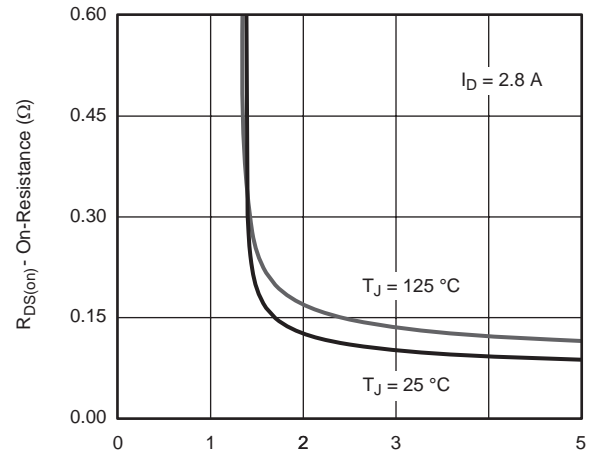


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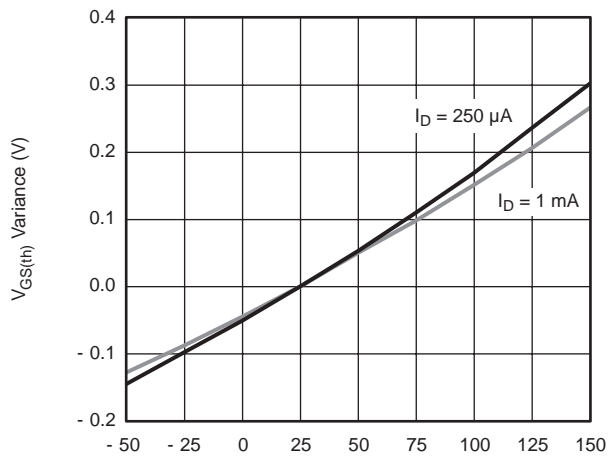
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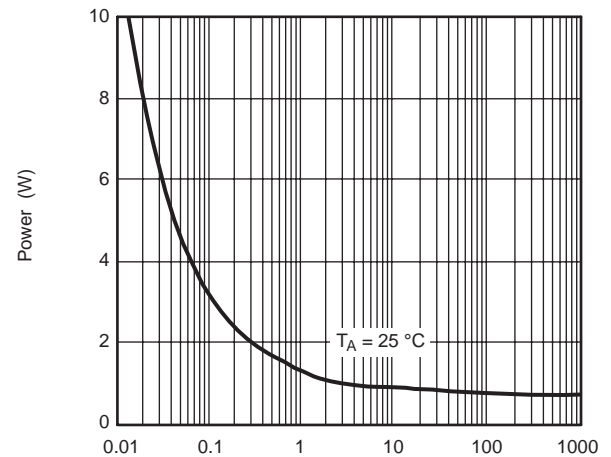
Source-Drain Diode Forward Voltage



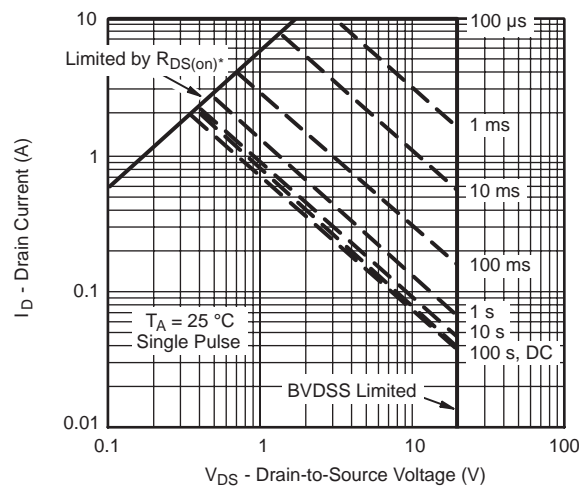
On-Resistance vs. Gate-to-Source Voltage



Threshold Voltage



Single Pulse Power

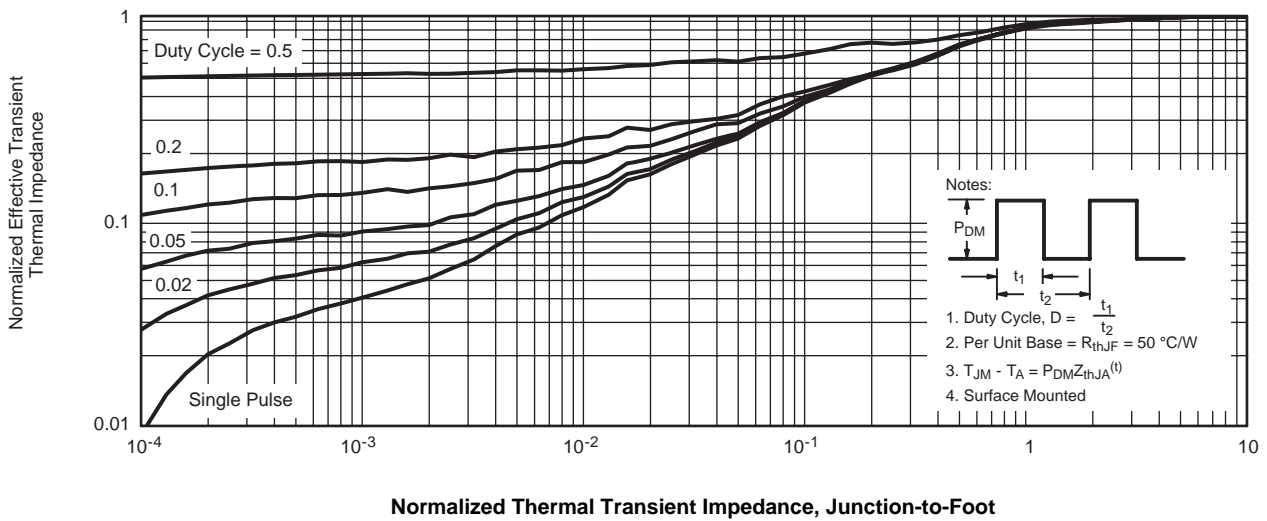
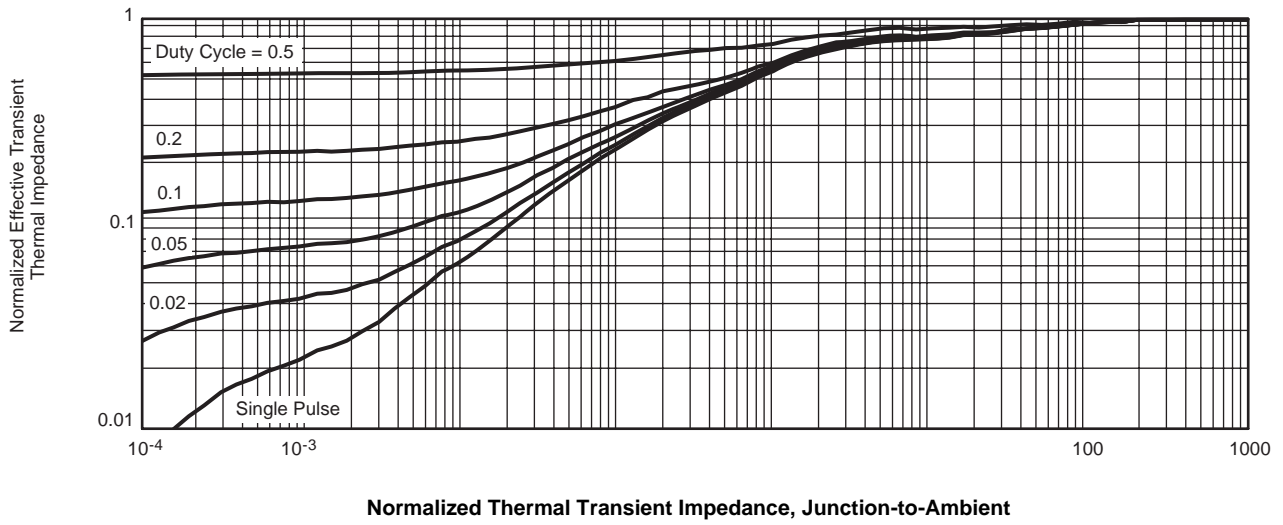


Safe Operating Area



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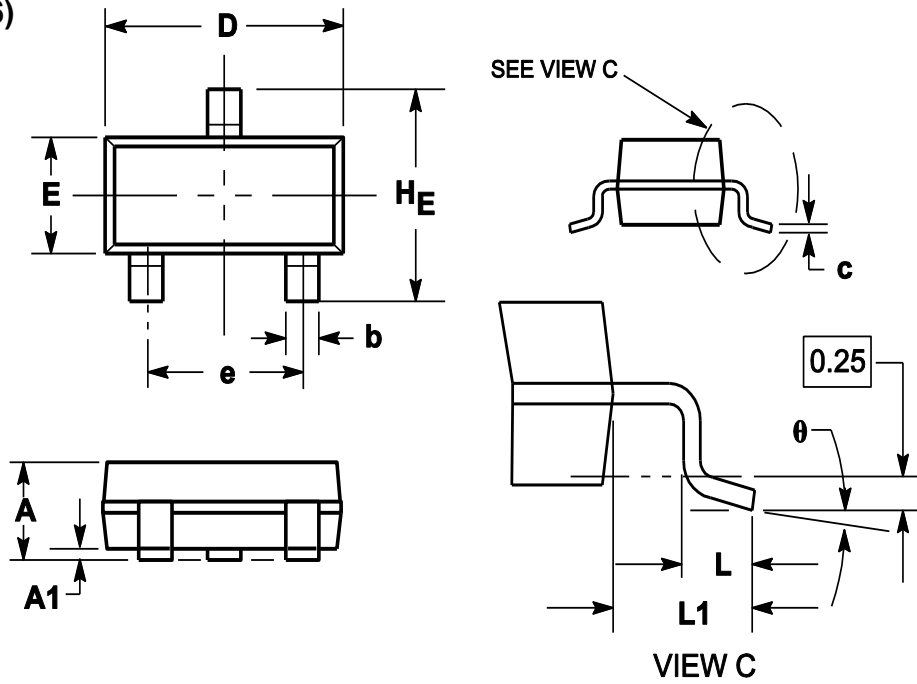
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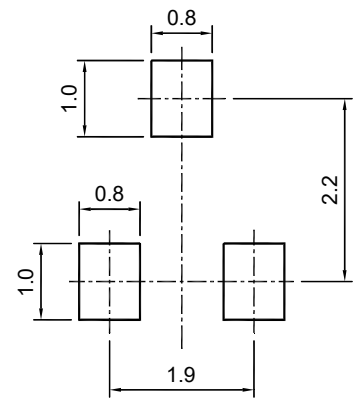


Package Outline

SOT-23 (TO-236)



Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	0.900	1.025	1.150
A1	0.000	0.050	0.100
b	0.300	0.400	0.500
c	0.080	0.115	0.150
D	2.800	2.900	3.000
E	1.200	1.300	1.400
HE	2.250	2.400	2.550
e	1.800	1.900	2.000
L1	0.550REF		
L	0.300		0.500
θ	0°		8°

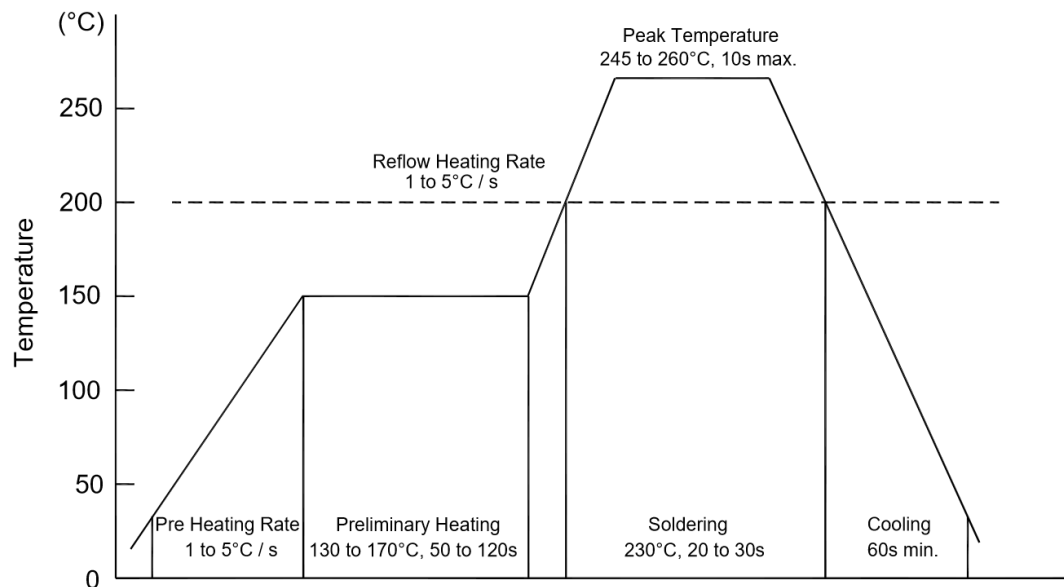


SOT-23 (TO-236)

Recommended soldering pad

Ordering Information

Device	Package	Shipping
PJM2301PSA	SOT-23	3000/Reel&Tape(7inch)

**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

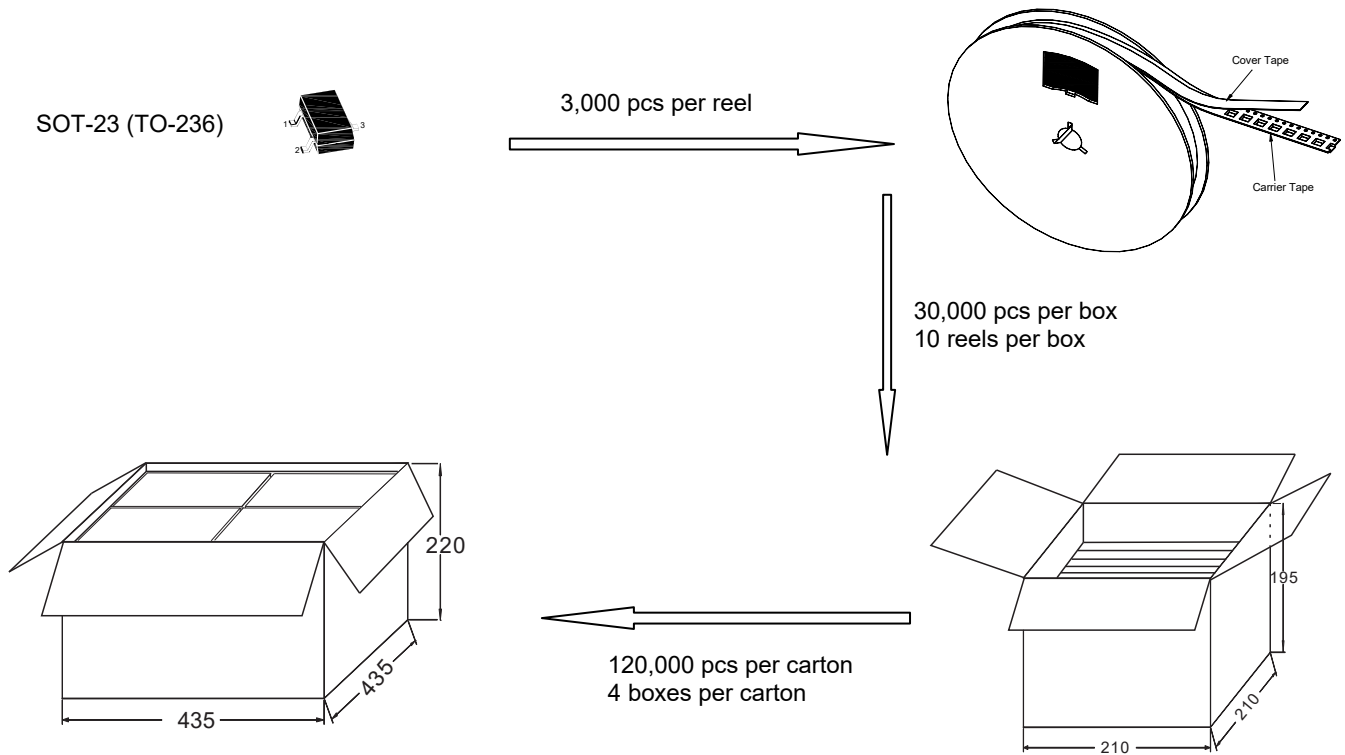


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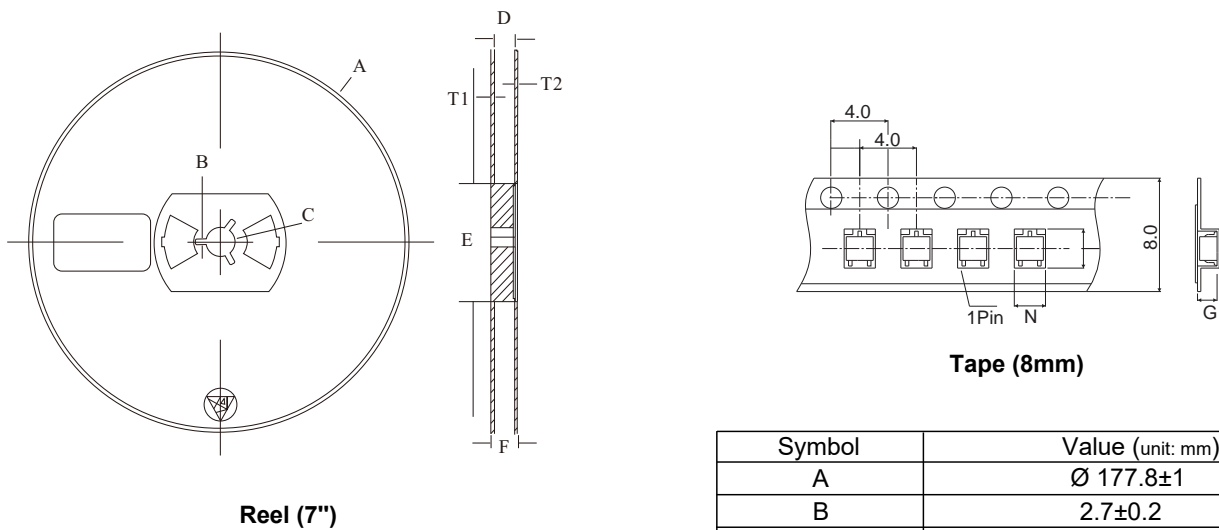
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Package Specifications

◆ The method of packaging



◆ Embossed tape and reel data



Symbol	Value (unit: mm)
A	Ø 177.8±1
B	2.7±0.2
C	Ø 13.5±0.2
E	Ø 54.5±0.2
F	12.3±0.3
D	9.6+2/-0.3
T1	1.0±0.2
T2	1.2±0.2
N	3.15±0.1
G	1.25±0.1

单击下面可查看定价，库存，交付和生命周期等信息

[>>PJSEMI\(平晶微\)](#)