



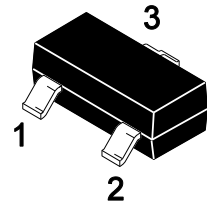
PJM3401PSA

P-Enhancement Field Effect Transistor

Features

- High density cell design for ultra low $R_{DS(ON)}$
- Fully characterized avalanche voltage and current
- Excellent package for good heat dissipation

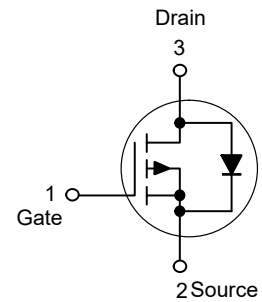
SOT-23



1. Gate 2.Source 3.Drain

Marking: R1

Schematic Diagram



Applications

- Power switching application
- Hard switched and high frequency circuits
- Uninterruptible power supply

Absolute Maximum Ratings

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

Parameter	Symbol	Value	Units
Drain-Source Voltage	$-V_{DS}$	30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	$-I_D$	4.1	A
Power Dissipation	P_D	1.2	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	$R_{\theta JA}$	104	$^\circ\text{C/W}$



Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Units
Static Characteristics						
Drain-source breakdown voltage	$-V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	30	--	--	V
Drain to Source Leakage Current	$-I_{DSS}$	$V_{DS} = -24V, V_{GS} = 0V$	--	--	1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$	--	--	± 100	nA
Gate threshold voltage ^{Note1}	$-V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	0.7	--	1.3	V
Drain-source on-resistance ^{Note1}	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -4.1A$	--	--	65	m Ω
		$V_{GS} = -4.5V, I_D = -2A$	--	--	85	m Ω
Forward transconductance ^{Note1}	g_{FS}	$V_{DS} = -5V, I_D = -5A$	7	--	--	S
Dynamic characteristics						
Input Capacitance	C_{iss}	$V_{DS} = -15V, V_{GS} = 0V, f=1MHz$	--	954	--	pF
Output Capacitance	C_{oss}		--	115	--	
Reverse Transfer Capacitance	C_{rss}		--	77	--	
Switching Characteristics						
Turn-on delay time	$t_{d(on)}$	$V_{DD} = -15V,$ $V_{GS} = -10V, R_{GEN} = 6\Omega,$ $R_L = 3.6\Omega,$	--	--	6.3	ns
Turn-on rise time	t_r		--	--	3.2	
Turn-off delay time	$t_{d(off)}$		--	--	38.2	
Turn-off fall time	t_f		--	--	12	
Source-Drain Diode characteristics						
Diode Forward voltage	$-V_{DS}$	$V_{GS} = 0V, I_S = -1A$	--	--	1	V

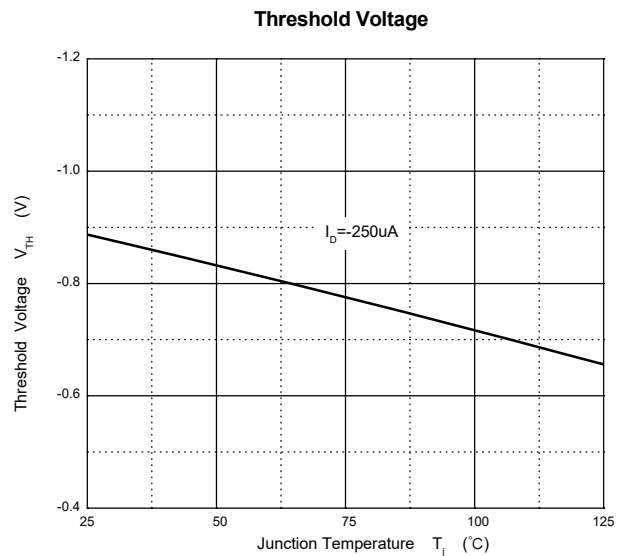
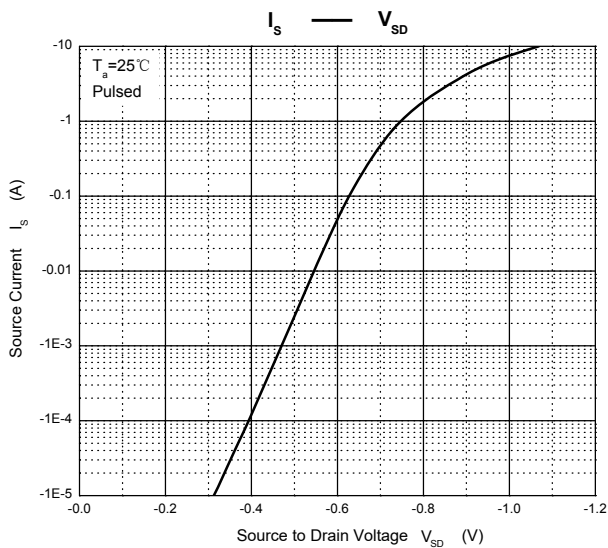
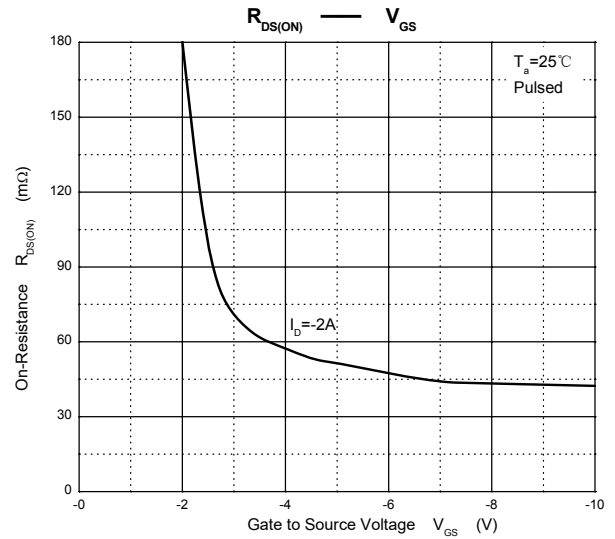
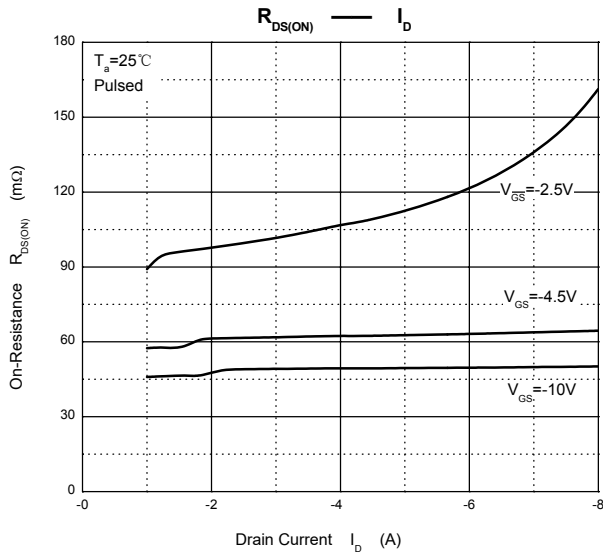
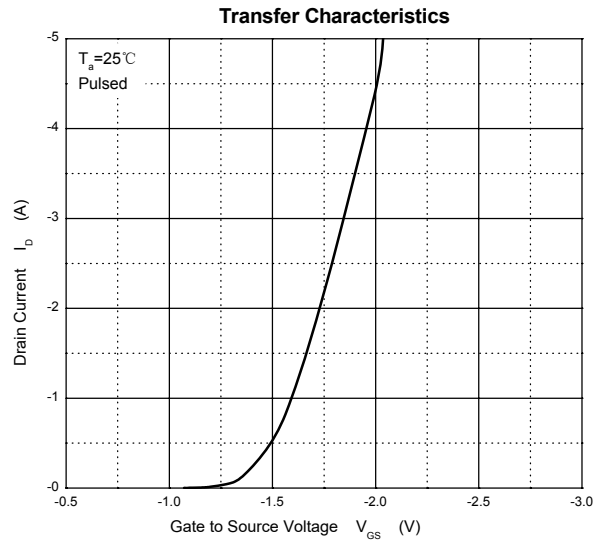
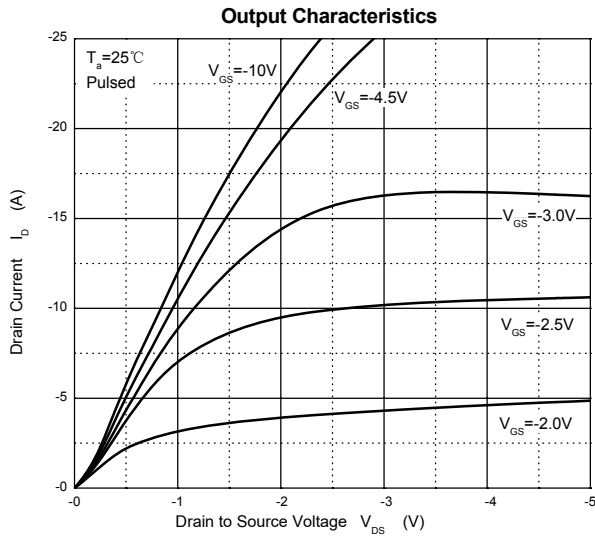
Notes: 1. Pulse test ; pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.



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Typical Curves



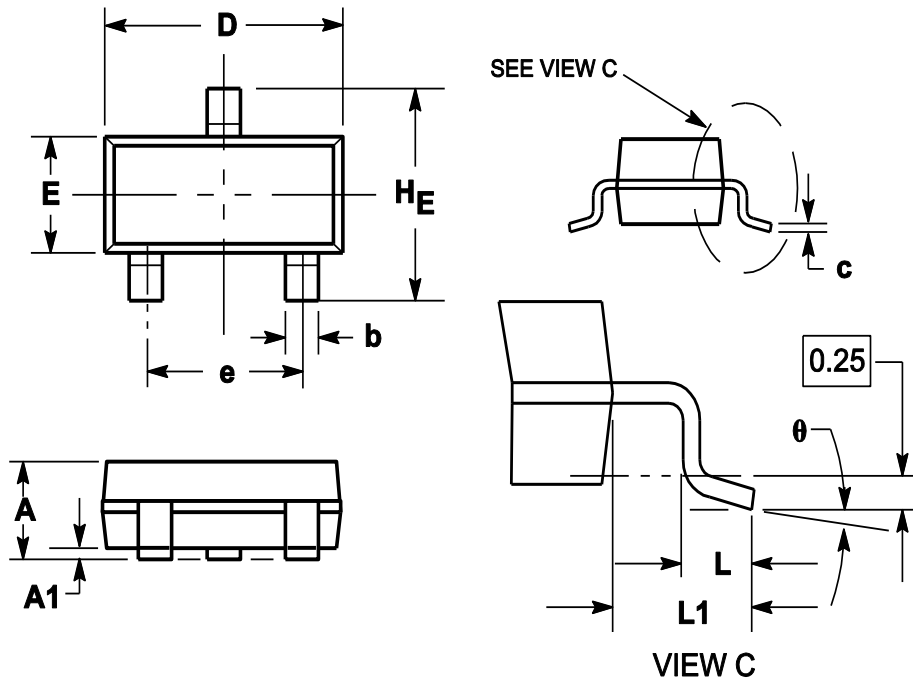


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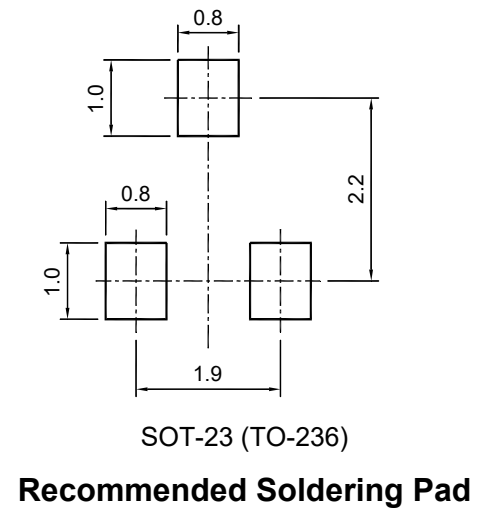
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Package Outline

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°



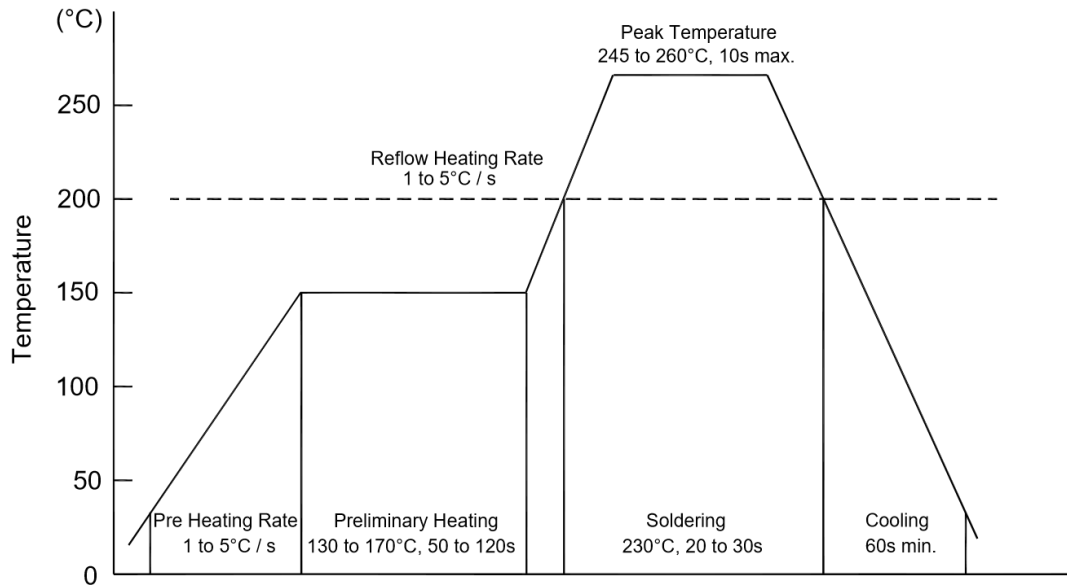
Ordering Information

Device	Package	Shipping
PJM3401PSA	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

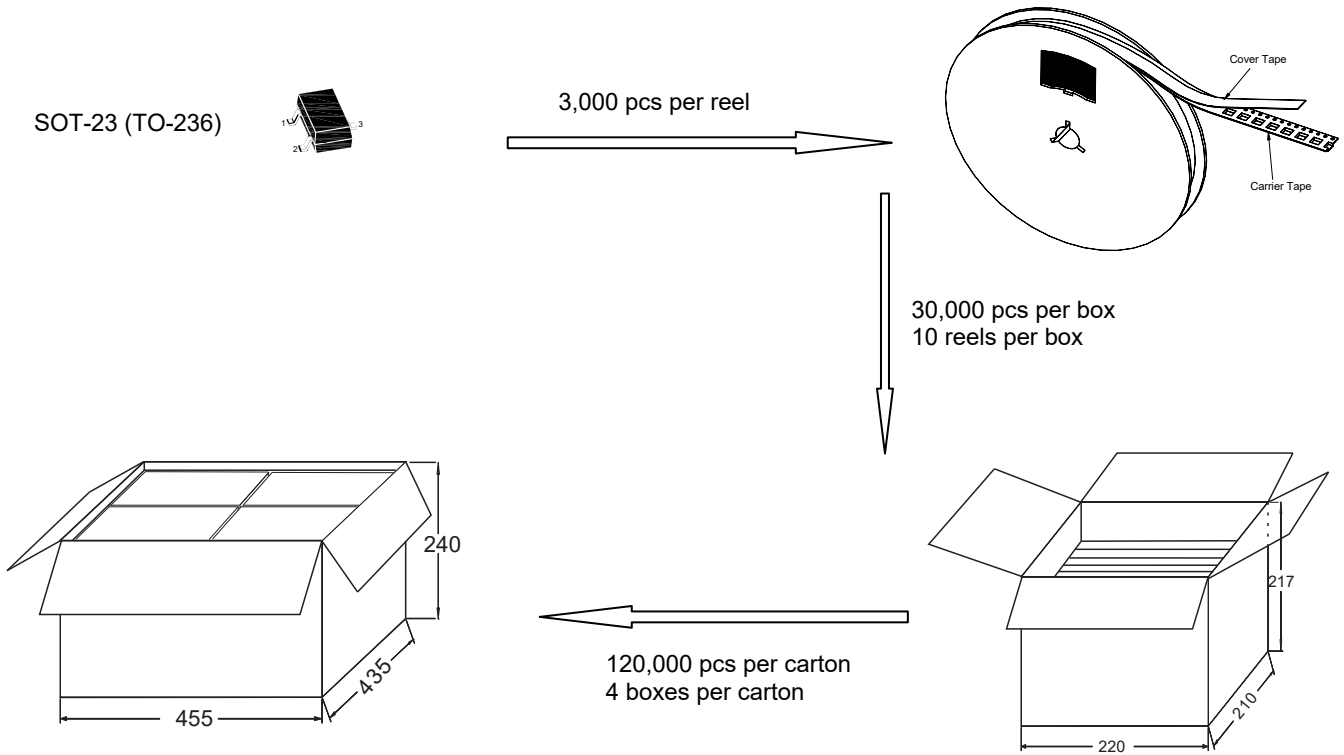
- **Temperature**
5 to 40 °C
- **Humidity**
30 to 80% RH
- **Recommended period**
One year after manufacturing



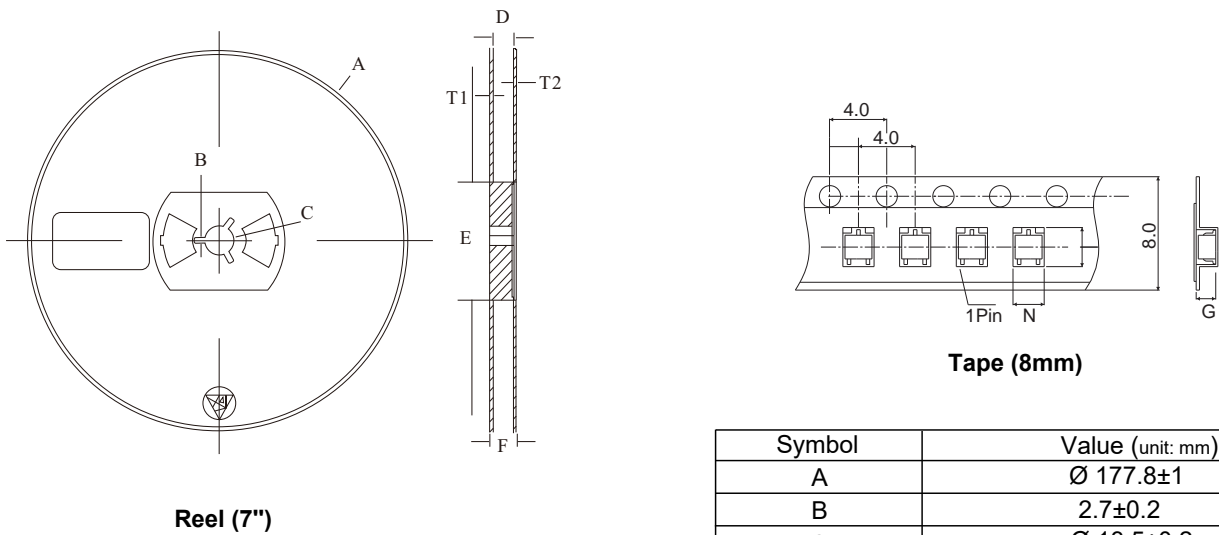
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Package Specifications

1. The method of packaging and dimension are shown as below figure. (Units:mm)



2. Tape and reel data (Units:mm)



Symbol	Value (unit: mm)
A	$\varnothing 177.8 \pm 1$
B	2.7 ± 0.2
C	$\varnothing 13.5 \pm 0.2$
E	$\varnothing 54.5 \pm 0.2$
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