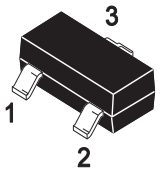
PJM3407PSA
P Enhancement Field Effect Transistor

DESCRIPTION

The PJM3407PSA uses advanced trench technology to provide excellent $R_{DS(on)}$ with low gate charge.

This device is suitable for use as a load switch in PWM applications.



1Gate 2Source 3Drain
SOT-23 Plastic Package

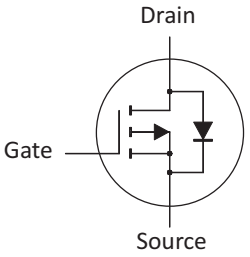
FEATURES

$V_{DS(V)}$ = -30V

I_D = -4.1A

$R_{DS(on)}$＜60mΩ@-10V

$R_{DS(on)}$＜87mΩ@-4.5V



ABSOLUTE MAXIMUM RATINGS

(T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-4.1	A
Power Dissipation (1)	P_D	1.4	W
Thermal Resistance from Junction to Ambient (2) (t ≤ 10s)	$R_{\theta JA}$	90	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~+150	℃

ELECTRICAL CHARACTERISTICS

T_A =25 ℃ unless otherwise specified

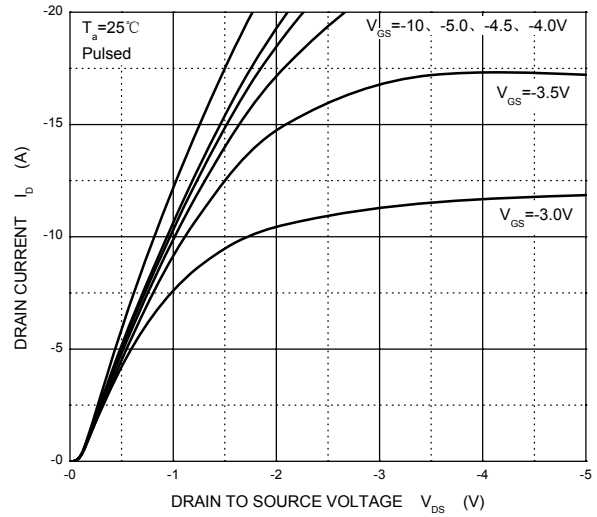
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static characteristics						
Drain-source breakdown voltage	$V_{(BR)DS}$	V_{GS} = 0V, I_D =-250μA	-30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-24V,V_{GS} = 0V			-1	μA
Gate-source leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±100	nA
Drain-source on-resistance (3)	$R_{DS(on)}$	V_{GS} =-10V, I_D =-4.1A		50	60	mΩ
		V_{GS} =-4.5V, I_D =-3A		68	87	mΩ
Forward tranconductance (3)	g_{FS}	V_{DS} =-5V, I_D =-4A	5.5			S
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-1	-1.4	-3	V
Diode forward voltage (3)	V_{SD}	I_S=-1A,V_{GS}=0V			-1	V
Dynamic characteristics						
Input capacitance	C_{iss}	V_{DS} =-15V,V_{GS} =0V,f =1MHz		700		pF
Output capacitance	C_{oss}			120		pF
Reverse transfer capacitance	C_{rss}			75		pF
Switching Characteristics						
Turn-on delay time	$t_{d(on)}$	V_{GS}=-10V,V_{DS}=-15V, R_L=3.6Ω,R_{GEN}=3Ω		8.6		ns
Turn-on rise time	t_r			5.0		ns
Turn-off delay time	$t_{d(off)}$			28.2		ns
Turn-off fall time	t_f			13.5		ns

Notes:

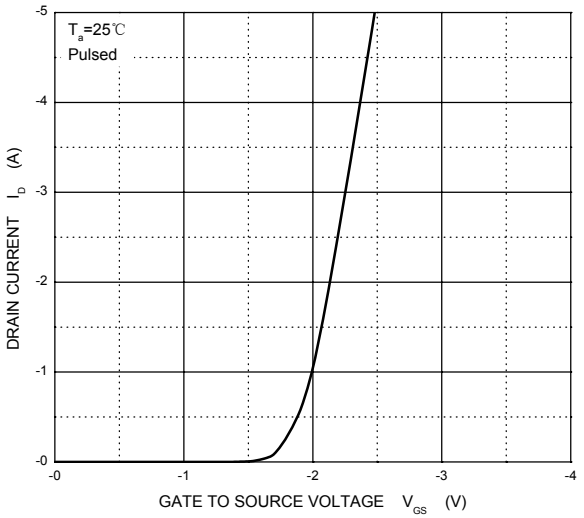
1. The power dissipation P_D is based on $T_{J(MAX)}$ =150℃, using≤10s $R_{\theta JA}$.
2. The value of $R_{\theta JA}$ is measured with the device mounted on 1in^2 FR-4 board with 2oz. Copper, in a still air environment with T_A =25°C. The value in any given application depends on the user's specific board design.
3. Pulse test: Pulse width ≤300μs, duty cycle ≤2%.

TYPICAL CHARACTERISTICS CURVES

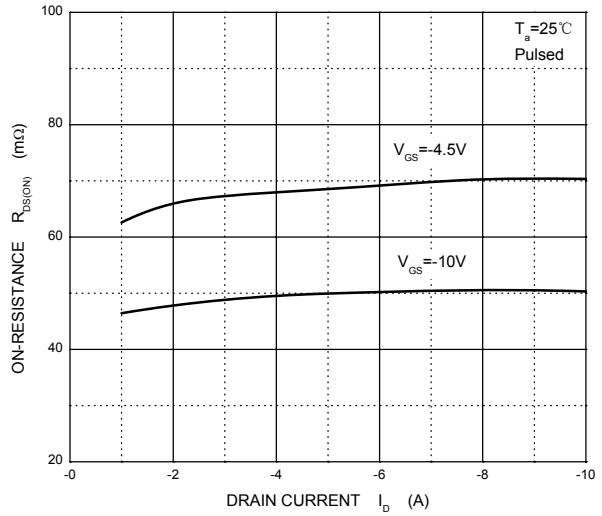
Output Characteristics



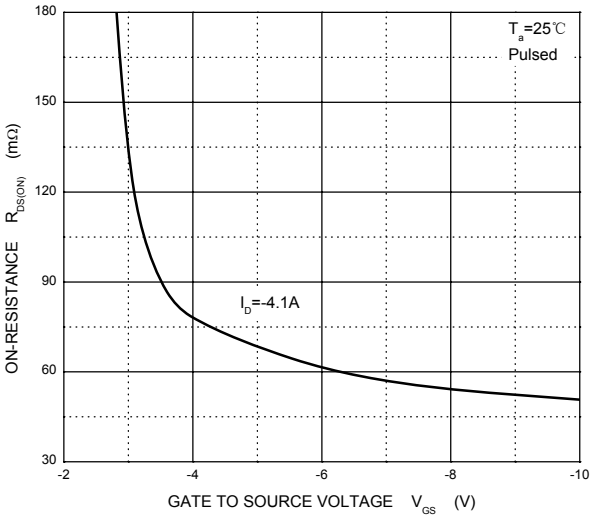
Transfer Characteristics



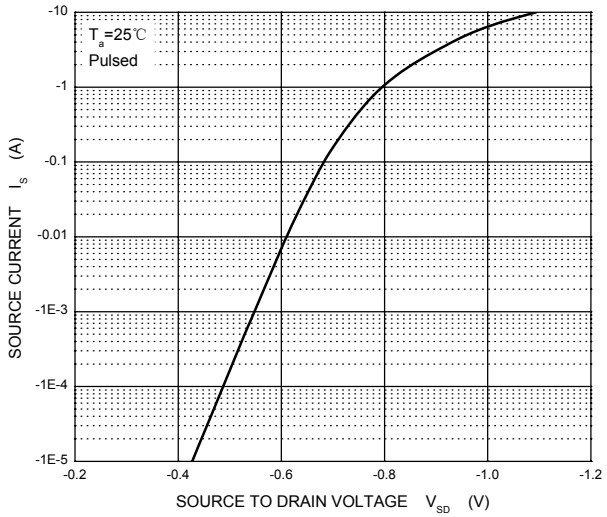
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}

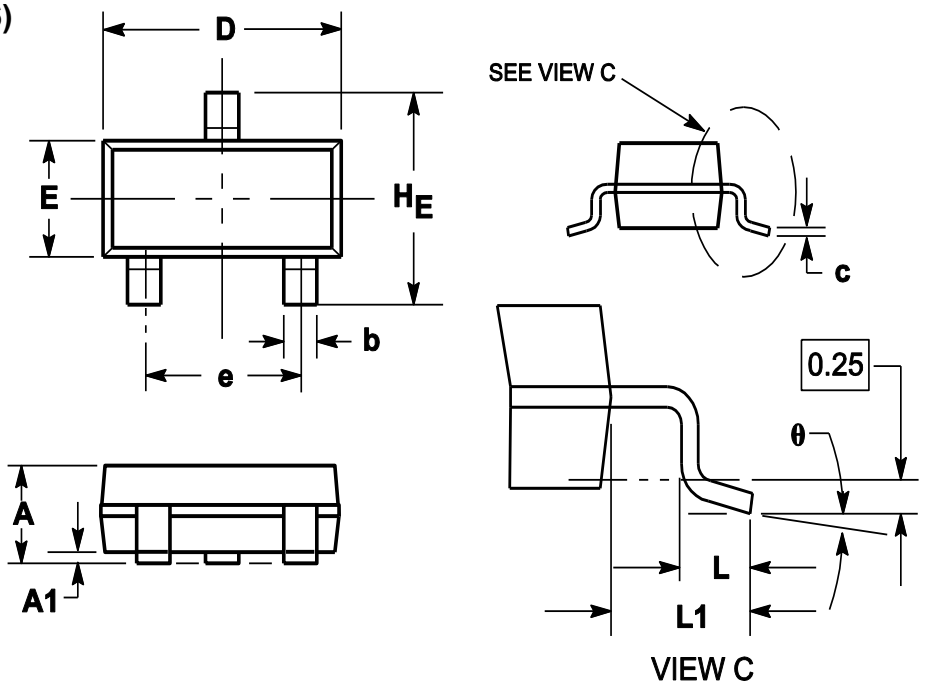


I_S — V_{SD}

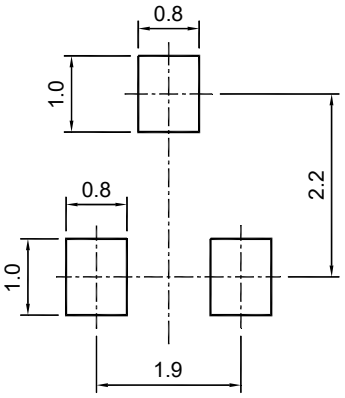


PACKAGE OUTLINE

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
H_E	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)

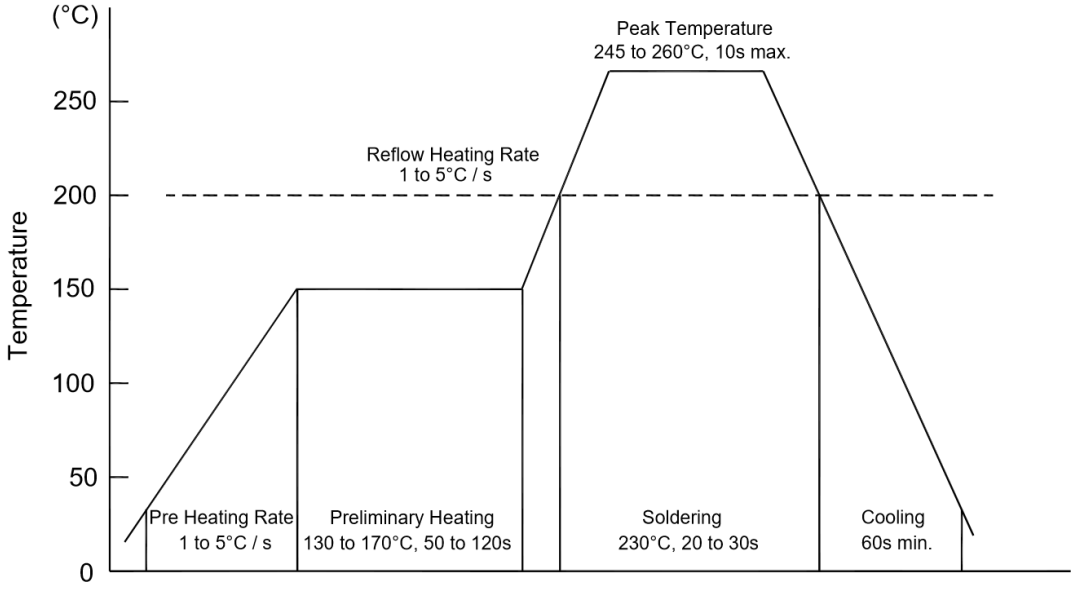
Recommended soldering pad

ORDERING INFORMATION

Device	Package	Shipping
PJM3407PSA	SOT-23	3000/Reel&Tape(7inch)

CONDITIONS OF SOLDERING AND STORAGE

◆ **Recommended condition of reflow soldering**



Recommended peak temperature is over 245 ℃. If peak temperature is below 245 ℃, 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 ℃
- Time: 3s max.
- Times: one time

◆ **Storage conditions**

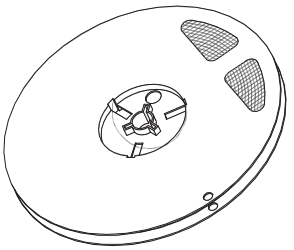
- **Temperature**
  5 to 40 ℃
- **Humidity**
  30 to 80% RH
- **Recommended period**
  One year after manufacturing

PACKAGE SPECIFICATIONS

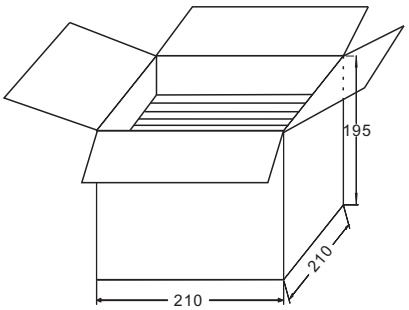
◆ **The method of packaging**

SOT-23 (TO-236)

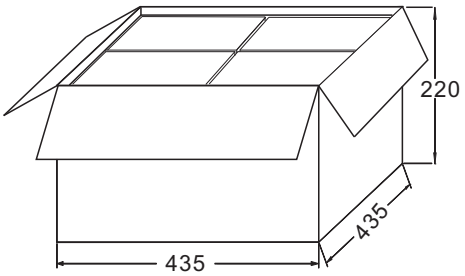
3,000 pcs per reel



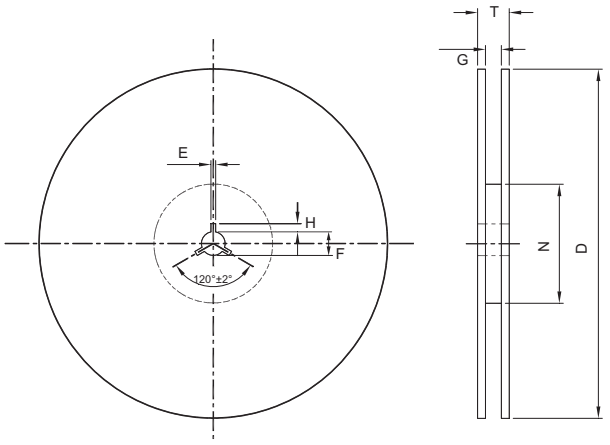
30,000 pcs per box
10 reels per box



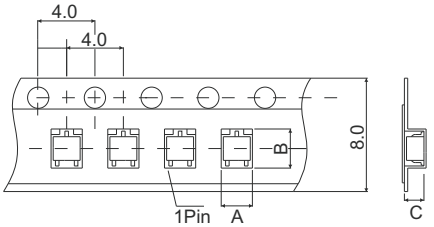
120,000 pcs per carton
4 boxes per carton



◆ Embossed tape and reel data



Reel (7")



Tape (8mm)

Symbol	Value (unit: mm)
A	3.15 ± 0.1
B	2.7 ± 0.1
C	1.25 ± 0.1
E	2 ± 0.5
F	13 ± 0.5
D	178 ± 2.0
G	8.4 ± 1.5
H	4 ± 0.5
N	60
T	< 14.9