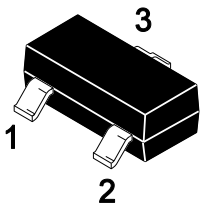
PJM07P20SA
P Enhancement Field Effect Transistor

Features

- V_{DS}=-20V, I_D=-7A
  $R_{DS(on)}$=30mΩ (Max.)@V_{GS}=-10V
- High density cell design for ultra low $R_{DS(ON)}$
- Low gate charge

SOT-23

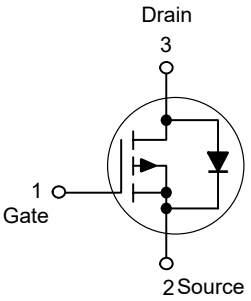


1. Gate 2.Source 3.Drain

Applications

- Load Switch and in PWM Applications

Schematic Diagram



Absolute Maximum Ratings

Ratings at T_A=25°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	$-I_D$	7	A
Power Dissipation	P_D	0.9	W
Junction and Storage Temperature Range	T_J, T_{STG}	150, -55 to 150	°C
Thermal Characteristics			
Parameter	**Symbol**	**Typ.**	**Units**
Maximum Junction-to-Ambient Note1	$R_{\theta JA}$	139	°C/W

Electrical Characteristics (T_A=25°C unless otherwise specified)

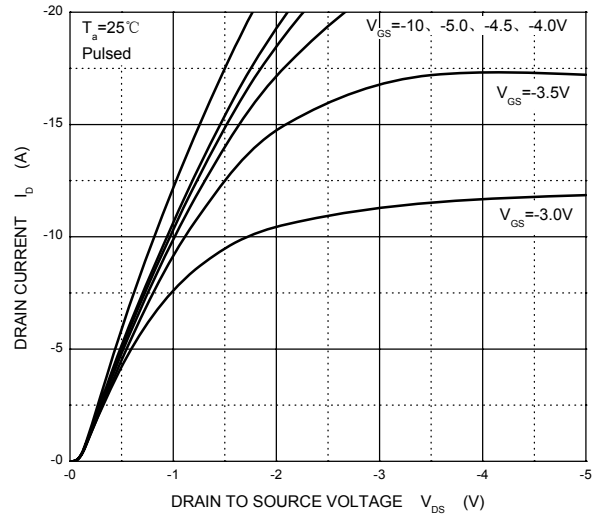
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static Characteristics						
Drain-source breakdown voltage	$-V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	20			V
Zero gate voltage drain current	$-I_{DSS}$	V_{DS} =-20V,V_{GS} = 0V			1	μA
Gate-source leakage current	I_{GSS}	V_{GS} =±12V, V_{DS} = 0V			±100	nA
Drain-source on-resistance Note2	$R_{DS(on)}$	V_{GS} =-10V, I_D =-4.1A		50	60	mΩ
		V_{GS} =-4.5V, I_D =-3A		68	87	mΩ
Gate threshold voltage Note2	$-V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	0.5	0.75	1.4	V
Forward tranconductance Note2	g_{FS}	V_{DS} =-5V, I_D =-4A	5.5			S
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
Source-Drain Diode Characteristics						
Diode forward voltage	V_{SD}	I_S=-1A,V_{GS}=0V			-1	V

Notes:

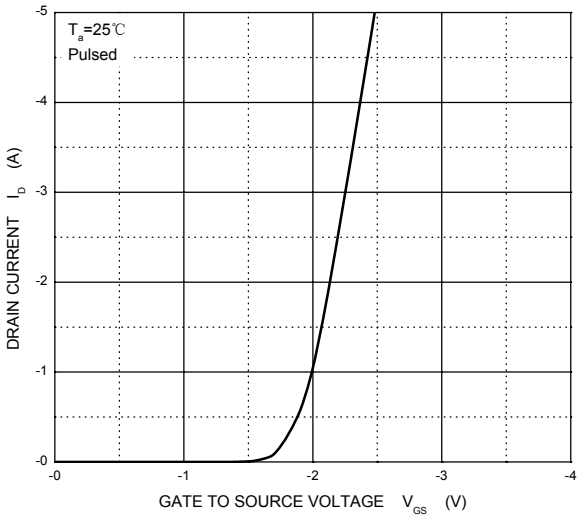
1. Surface mounted on FR4 board，t ≤ 10 sec.
2. Pulse test: Pulse width ≤300μs, duty cycle ≤2%.

Typical Curves

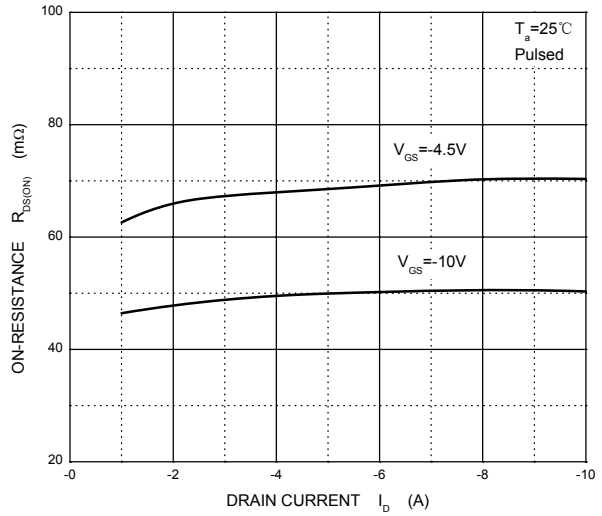
Output Characteristics



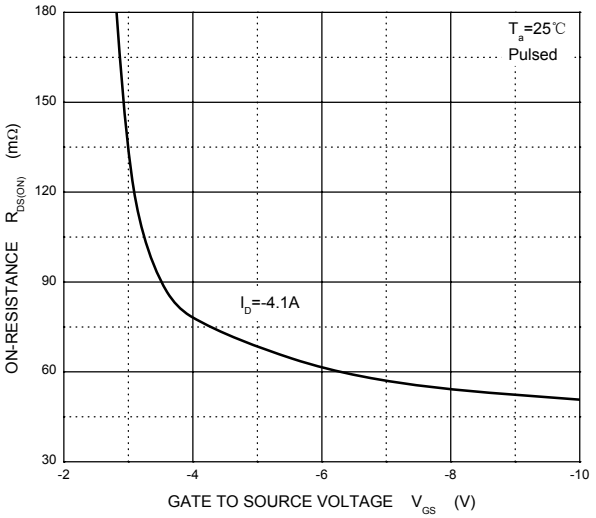
Transfer Characteristics



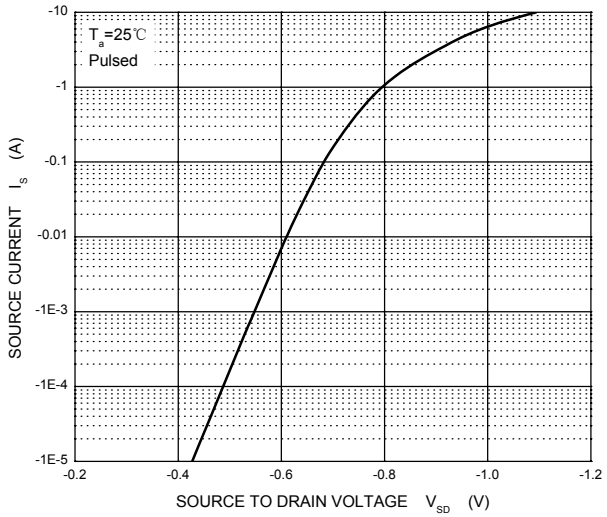
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}

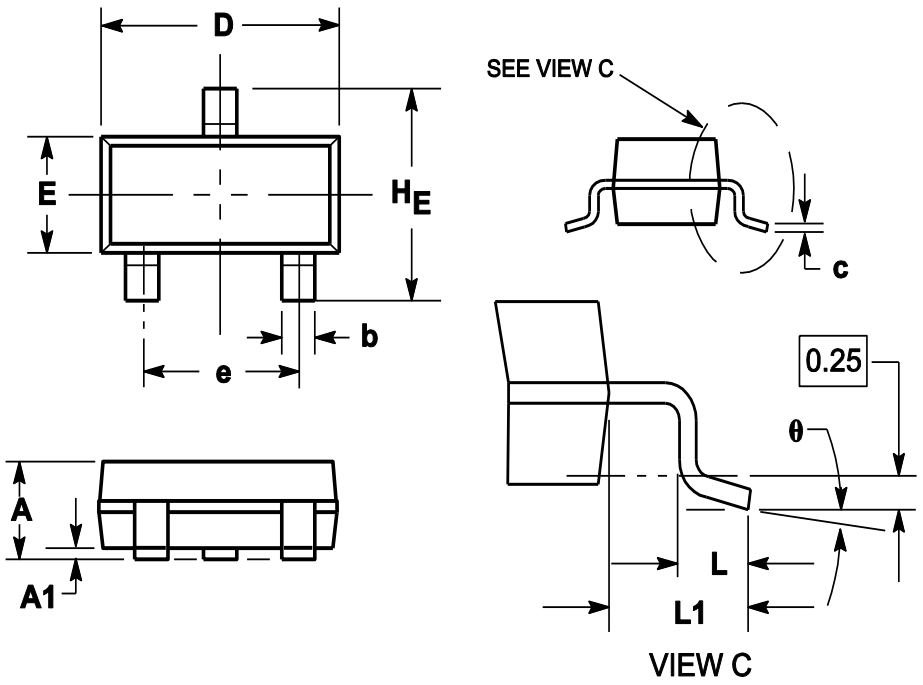


I_S — V_{SD}

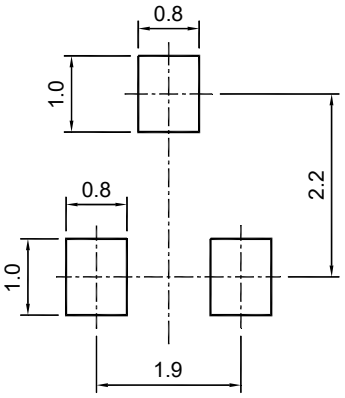


Package Outline

SOT-23



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)

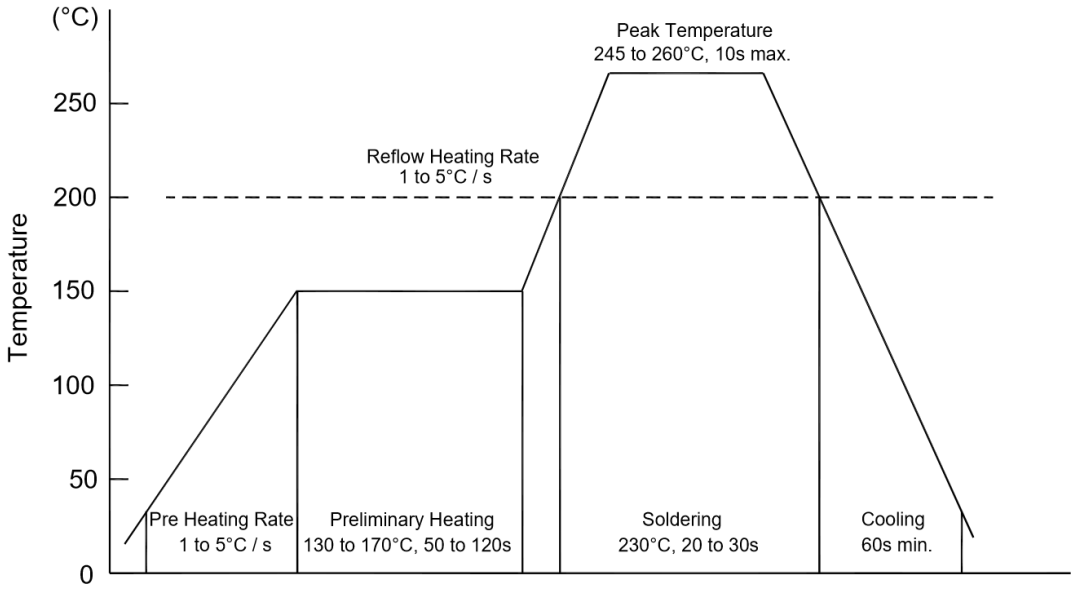
Recommended soldering pad

Ordering Information

Device	Package	Shipping
PJM07P20SA	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

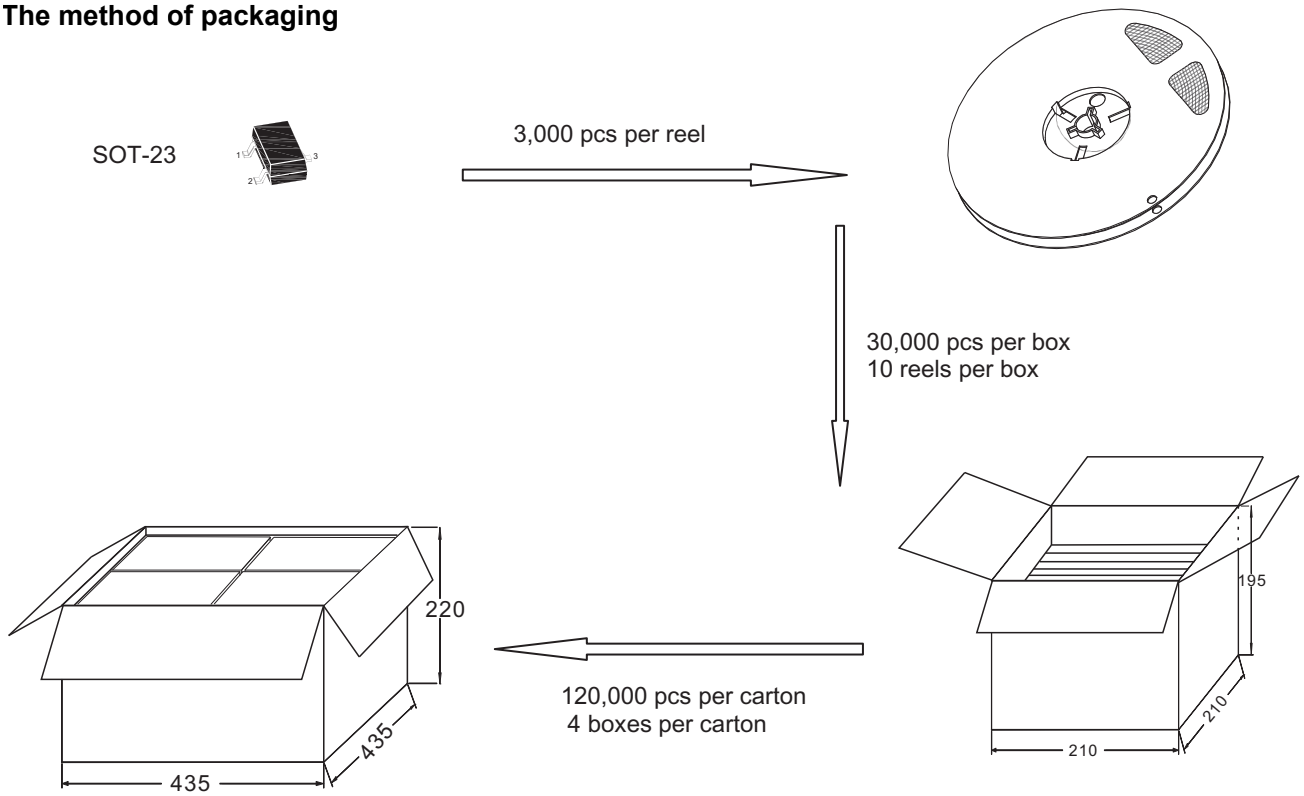
- Temperature: 370 ˚C
- Time: 3s max.
- Times: one time

◆ Storage conditions

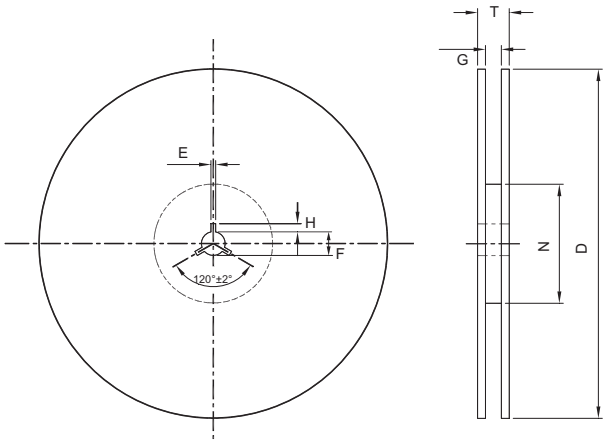
- **Temperature**
  5 to 40 ˚C
- **Humidity**
  30 to 80% RH
- **Recommended period**
  One year after manufacturing

Package Specifications

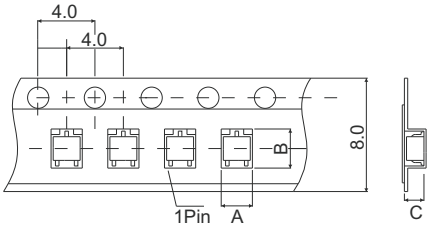
◆ **The method of packaging**



◆ 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