



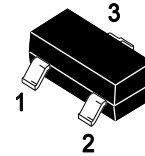
PJM2305PSA

P- Enhancement Mode Field Effect Transistor

FEATURES

- ◆ Trench FET Power MOSFET
- ◆ $R_{DS(ON)} < 45m\Omega$ ($V_{GS} = -4.5V$)
 $R_{DS(ON)} < 60m\Omega$ ($V_{GS} = -2.5V$)
 $R_{DS(ON)} < 90m\Omega$ ($V_{GS} = -1.8V$)

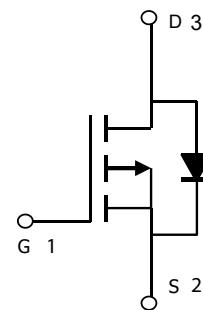
SOT-23



APPLICATIONS

- ◆ DC/DC Converter
- ◆ Load Switch for Portable Devices

Schematic diagram



ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-12	V
Gate-Source Voltage	V_{GS}	± 8	V
Continuous Drain Current	I_D	-4.1	A
Pulsed Drain Current ($t=300\mu s$)	I_{DM}	-15	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}C$



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ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =-250μA	-12			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =-12V,V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±8V, V _{DS} = 0V			100	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.5		-0.9	V
Drain-source on-resistance ¹	R _{DS(on)}	V _{GS} =-4.5V, I _D =-3.5A		30	45	mΩ
		V _{GS} =-2.5V, I _D =-3.0A		40	60	
		V _{GS} =-1.8V, I _D =-2.0A		60	90	
Forward tranconductance ¹	g _{FS}	V _{DS} =-5V, I _D =-4.1A	6			S
Dynamic characteristics ^{2,3}						
Input Capacitance	C _{iss}	V _{DS} =-4V,V _{GS} =0V,f =1MHz		740		pF
Output Capacitance	C _{oss}			290		
Reverse Transfer Capacitance	C _{rss}			190		
Gate resistance	R _g	f =1MHz	1.4		14	Ω
Total Gate Charge	Q _g	V _{DS} =-4V,V _{GS} =-2.5V,I _D =-4.1A		4.5	9	nC
Gate-Source Charge	Q _{gs}			1.2		
Gate-Drain Charge	Q _{gd}			1.6		
Turn-on delay time	t _{d(on)}	V _{DD} =-4V,V _{GEN} =-4.5V,I _D =-3.3A R _L =1.2Ω,R _{GEN} =1Ω		13	20	ns
Turn-on rise time	t _r			35	53	
Turn-off delay time	t _{d(off)}			32	48	
Turn-off fall time	t _f			10	20	
Turn-on delay time	t _{d(on)}	V _{DD} =-4V,V _{GEN} =-8V,I _D =-3.3A R _L =6Ω,R _{GEN} =1Ω		5	10	
Turn-on rise time	t _r			11	17	
Turn-off delay time	t _{d(off)}			22	33	
Turn-off fall time	t _f			16	24	
Source-Drain Diode characteristics						
Diode forward current	I _S	T _C =25℃			-1.4	A
Diode pulsed forward current ¹	I _{SM}				-10	A
Diode Forward voltage	V _{DS}	V _{GS} =0V, I _S =-3.3A			-1.2	V

Notes :

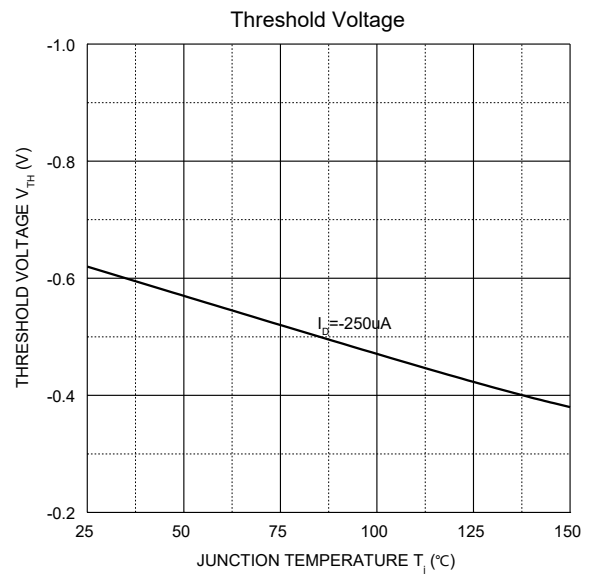
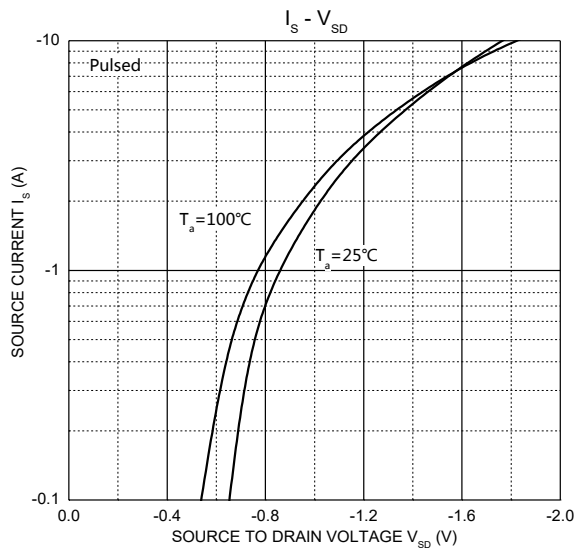
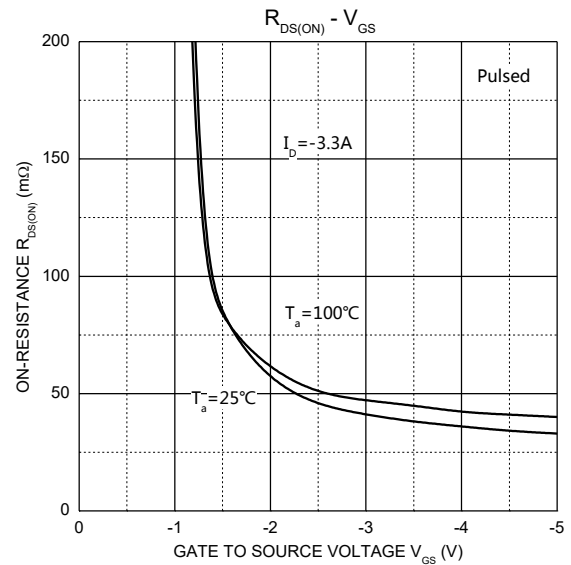
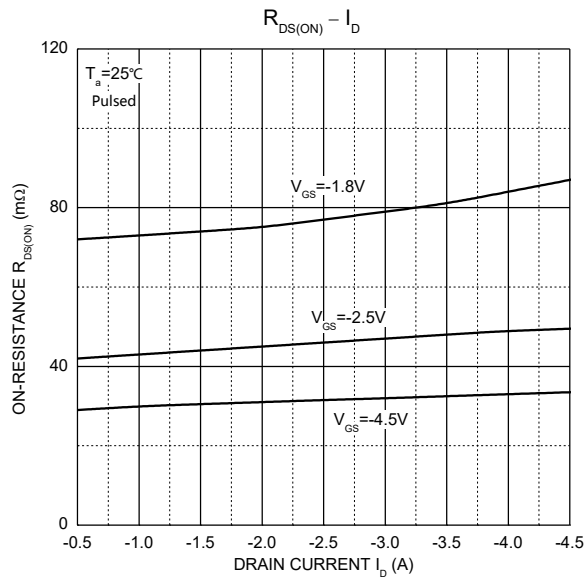
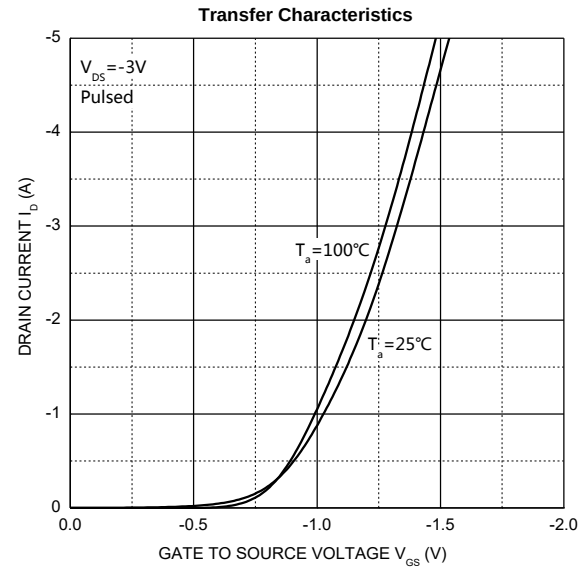
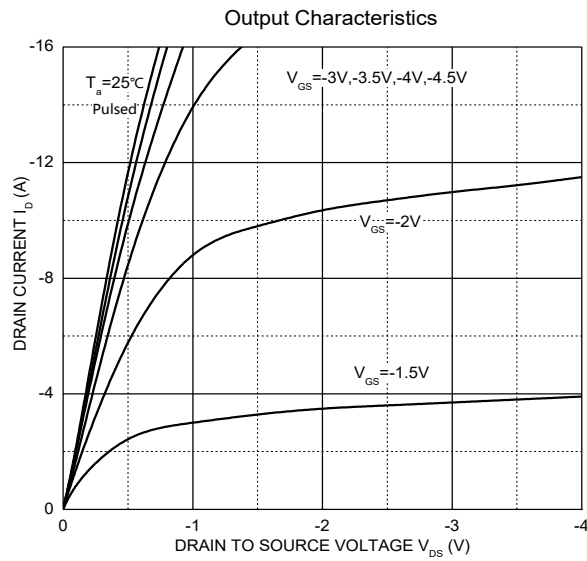
1. Pulse Test ; Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production testing.
3. These parameters have no way to verify.



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TYPICAL CHARACTERISTICS CURVES



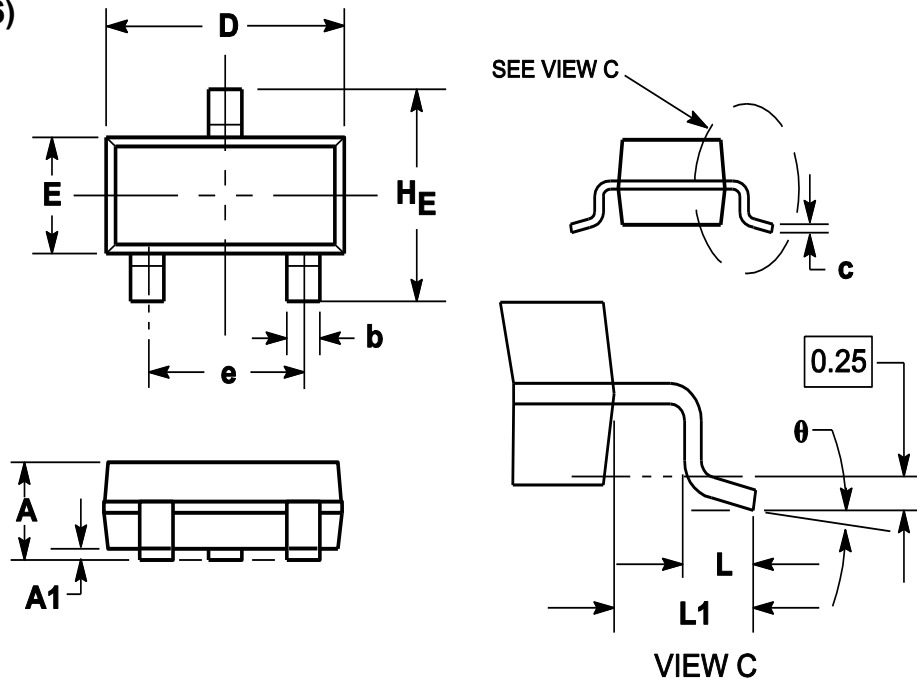


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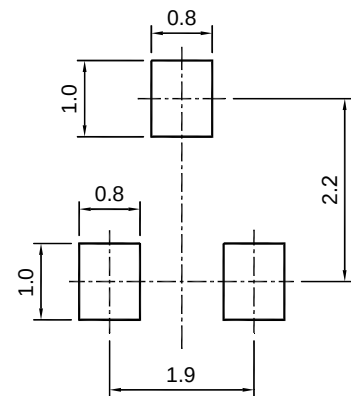
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PACKAGE OUTLINE

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°



SOT-23 (TO-236)

Recommended soldering pad

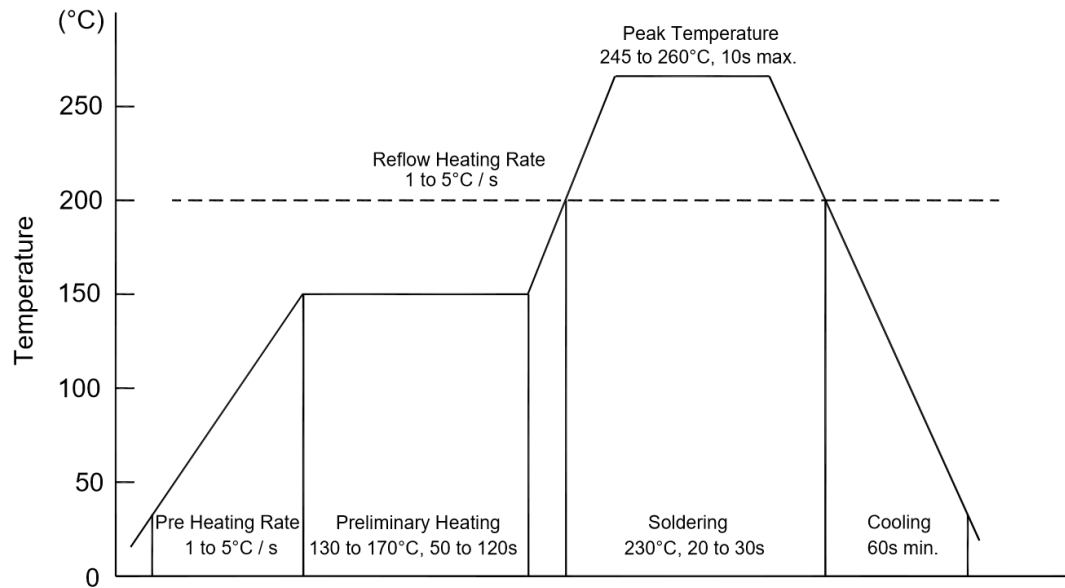
ORDERING INFORMATION

Device	Package	Shipping
PJM2305PSA	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

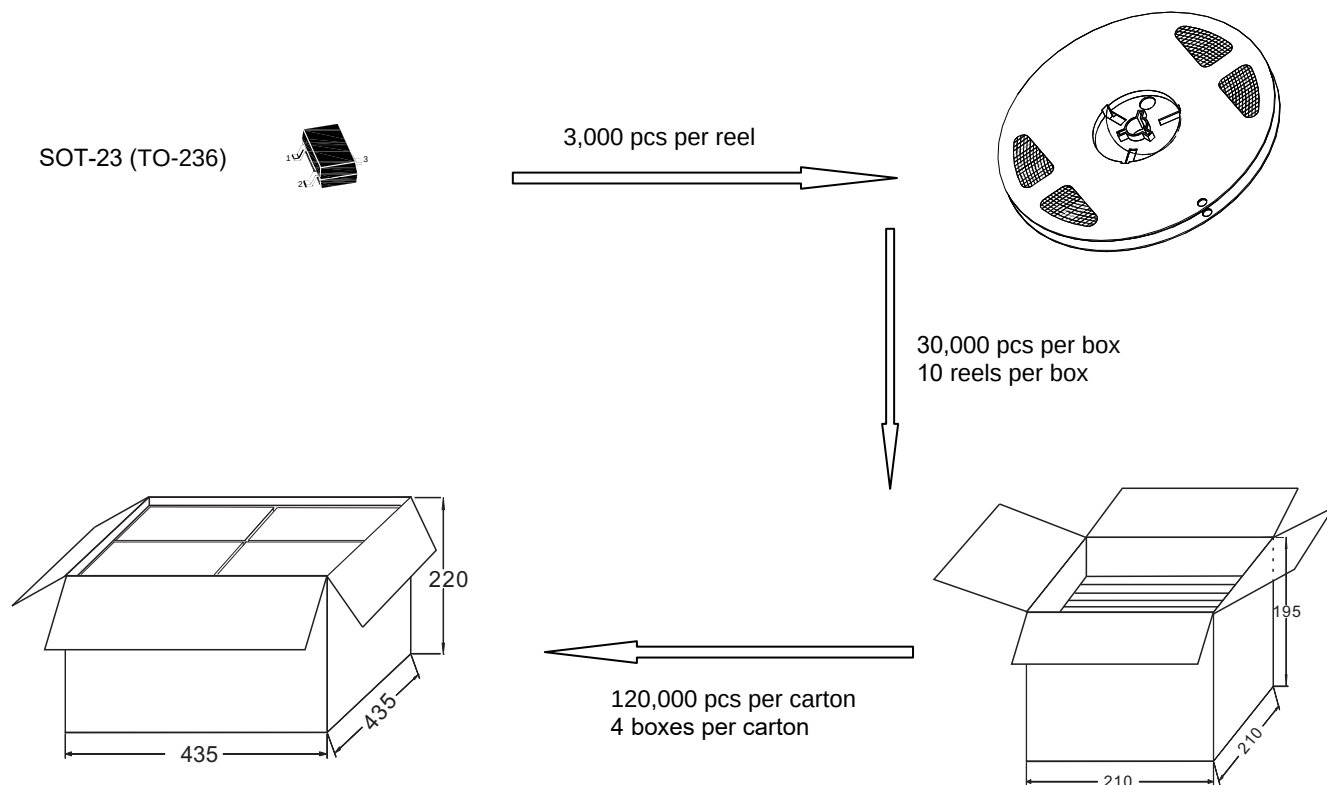


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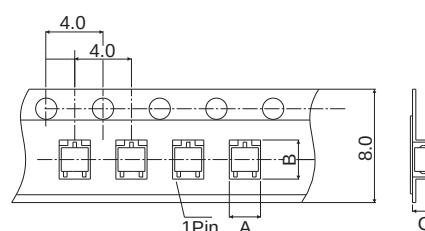
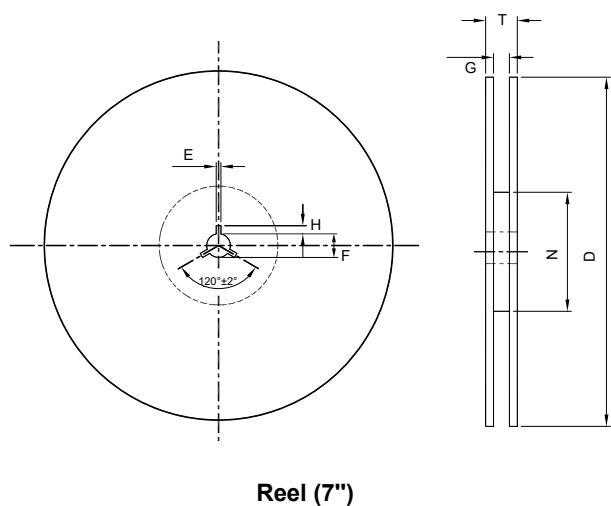
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PACKAGE SPECIFICATIONS

◆ The method of packaging



◆ Embossed tape and reel data



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