



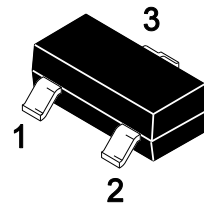
PJM84PSA

P-Channel MOSFET

Feature

- Energy efficient
- Low threshold voltage
- High-speed switching
- Miniature surface mount package saves board space
- ESD protected(HBM) up to 2KV

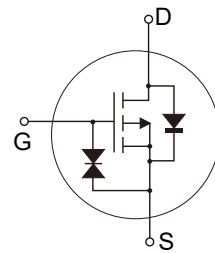
SOT-23



1. Gate 2. Source 3. Drain

Marking: P84

Schematic Diagram



Absolute Maximum Ratings

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

Parameter	Symbol	Maximum	Units
Drain-Source Voltage	$-V_{DS}$	50	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	$-I_D$	0.13	A
Pulsed Drain Current ^{Note1} @ $t_p < 10\mu\text{s}$	$-I_{DM}$	0.52	
Power Dissipation	P_D	225	mW
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}	$R_{\theta JA}$	556	$^{\circ}\text{C/W}$



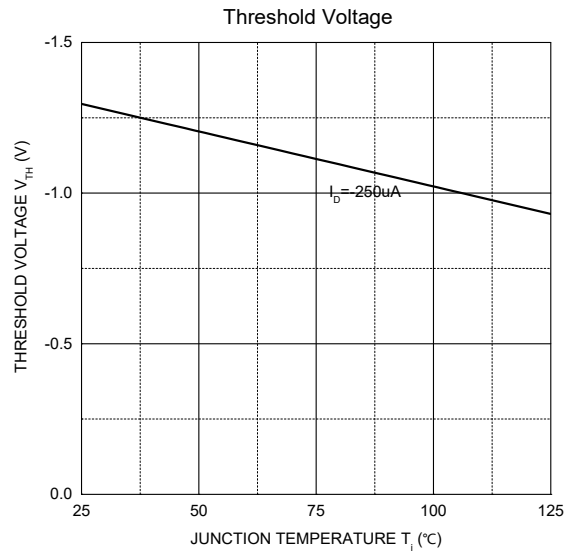
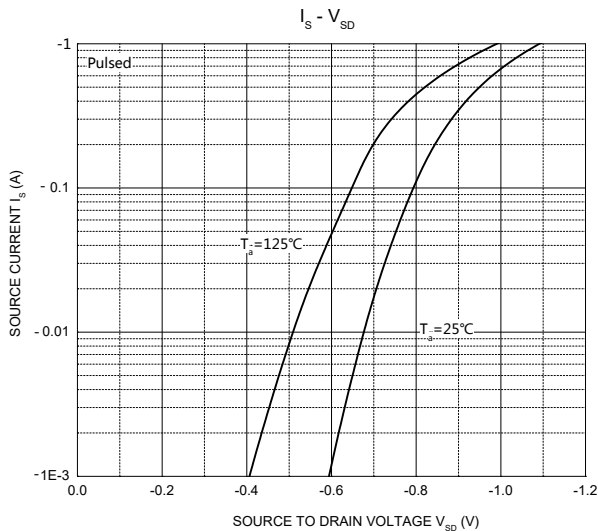
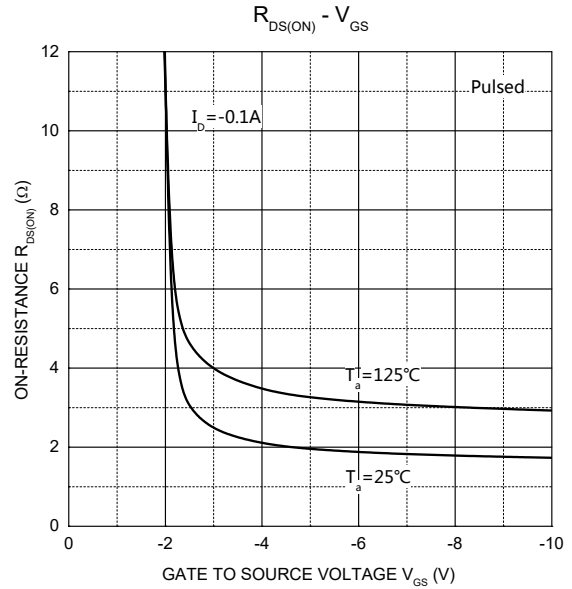
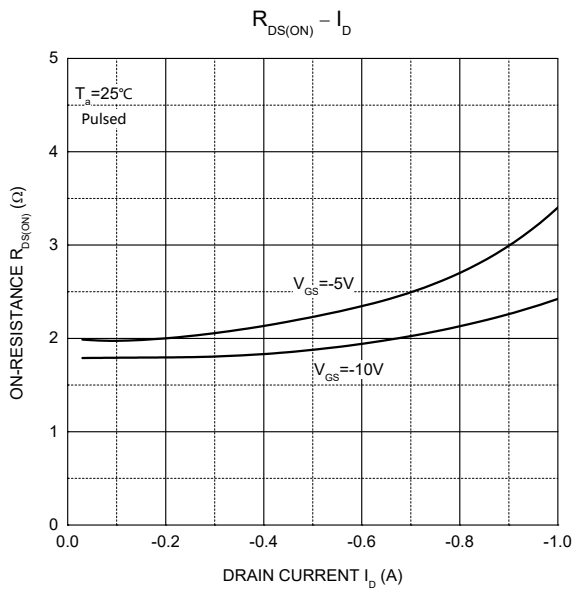
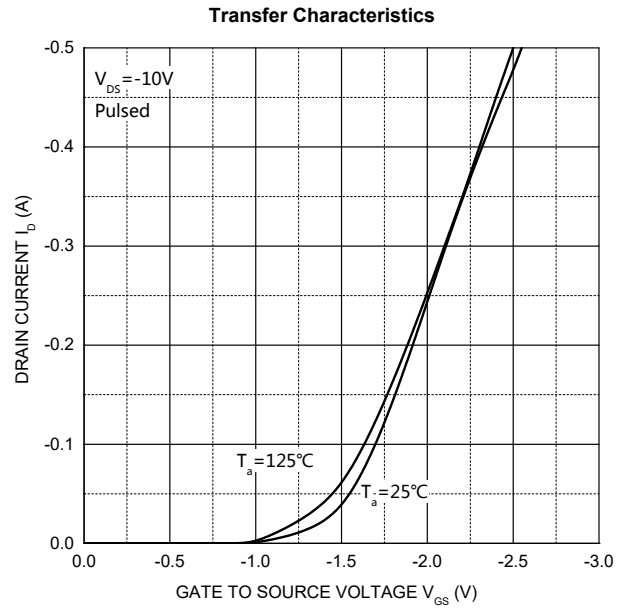
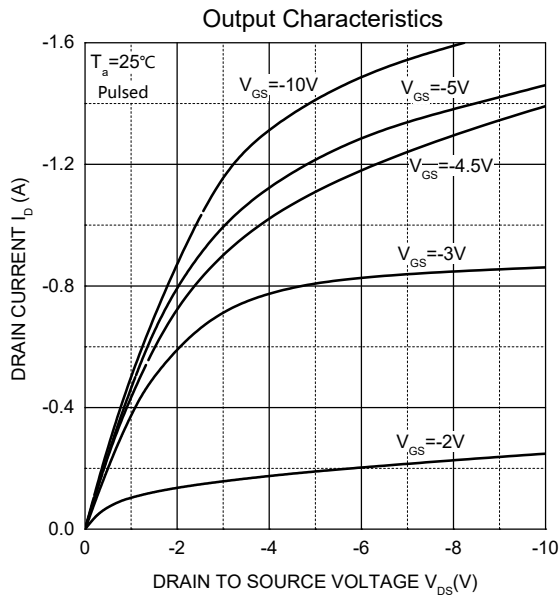
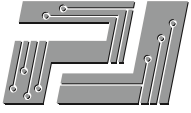
Electrical Characteristics (T_c = 25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Static Parameters						
Drain-Source Breakdown Voltage	-BV _{DSS}	-I _D =250μA, V _{GS} =0V	50	--	--	V
Zero Gate Voltage Drain Current	-I _{DSS}	-V _{DS} =50V, V _{GS} =0V	--	--	1	μA
		-V _{DS} =25V, V _{GS} =0V	--	--	0.1	μA
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V	--	1	5	μA
Gate Threshold Voltage ^{Note3}	-V _{GS(th)}	V _{DS} =V _{GS} , -I _D =250μA	0.9	1.3	2	V
Static Drain-Source On-Resistance ^{Note3}	R _{DS(on)}	-V _{GS} =10V, -I _D =0.1A	--	1.7	8	Ω
		-V _{GS} =5V, -I _D =0.1A	--	1.9	10	Ω
Body Diode Forward Voltage	-V _{SD}	-I _S =0.13A, V _{GS} =0V	--	--	1.2	V
Dynamic Parameters						
Forward Transconductance ^{Note3}	g _{FS}	-V _{DS} =25V, -I _D =0.1A	50	--	--	mS
Input Capacitance	C _{iss}	V _{GS} =0V, -V _{DS} =5V, f=1MHz	--	30	--	pF
Output Capacitance	C _{oss}		--	10	--	pF
Reverse Transfer Capacitance	C _{rss}		--	5	--	pF
Switching Parameters						
Turn-On DelayTime	t _{D(on)}	-V _{DD} =15V, R _L =50Ω, -I _D =2.5A	--	2.5	--	ns
Turn-On Rise Time	t _r		--	1	--	ns
Turn-Off DelayTime	t _{D(off)}		--	16	--	ns
Turn-Off Fall Time	t _f		--	8	--	ns
Source-Drain Diode characteristics						
Diode forward current	-I _S		--	--	0.13	A
Diode pulsed forward current	-I _{SM}		--	--	0.52	A

Notes: 1. Repetitive rating : Pulse width limited by junction temperature.

2. Surface mounted on FR4 board , t ≤ 10s.

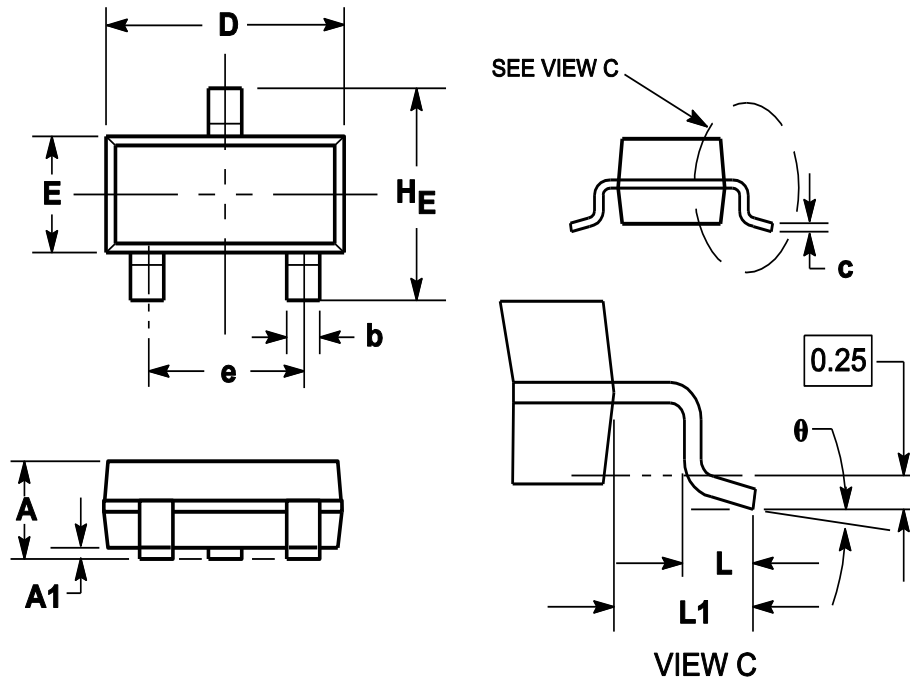
3. Pulse Test : Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.



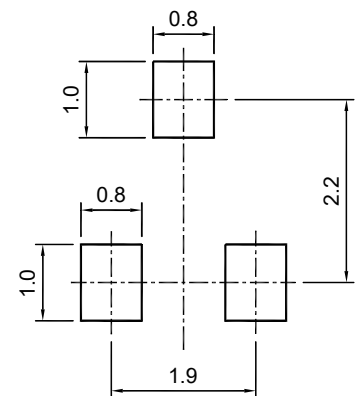


Package Outline

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

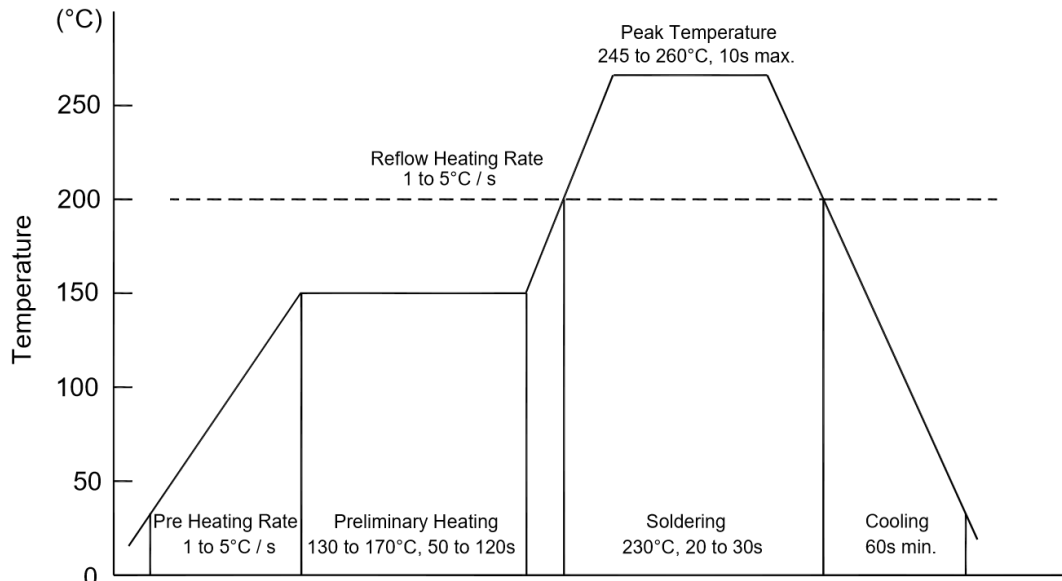
Ordering Information

Device	Package	Shipping
PJM84PSA	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

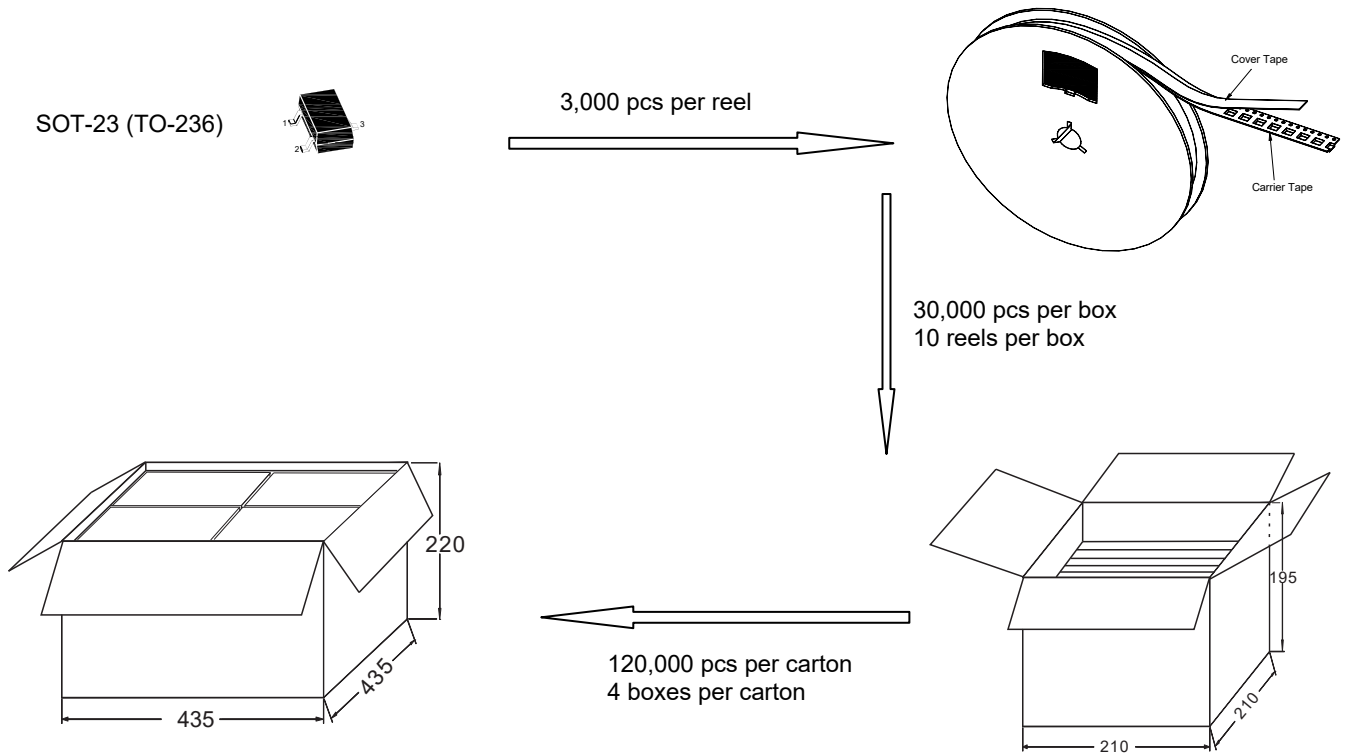
◆ Storage conditions

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

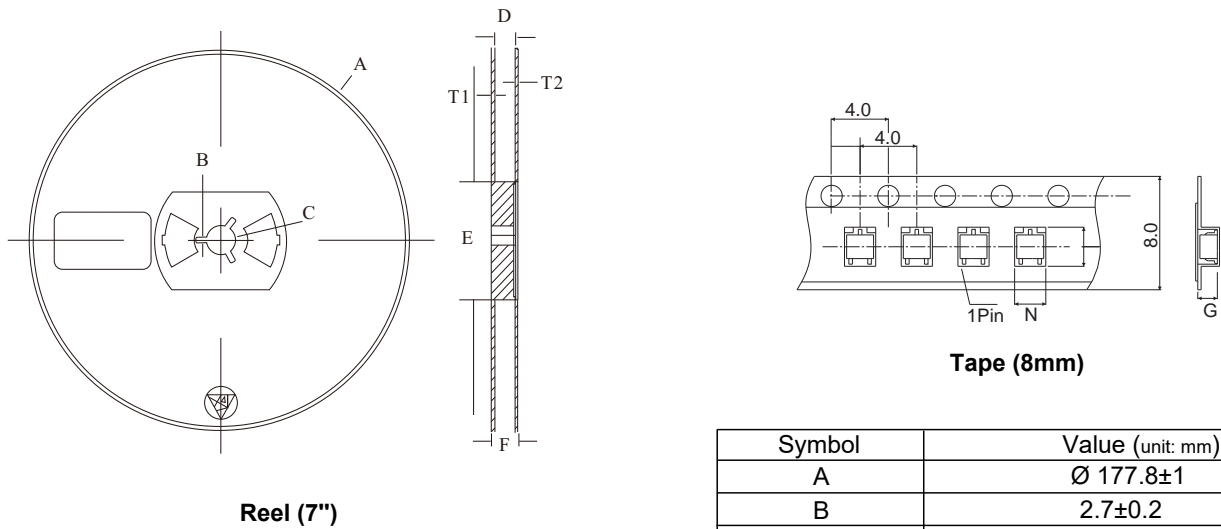


Package Specifications

- The method of packaging



◆ Embossed tape and reel data



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

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