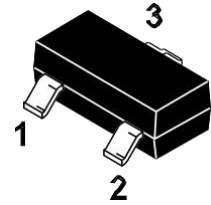


Features

- Low gate charge and $R_{DS(on)}$
- Low reverse transfer capacitances
- $V_{DS} = -30V, I_D = -2.7A$
 $R_{DS(on)} < 88m\Omega @ V_{GS} = -10V$

SOT-23



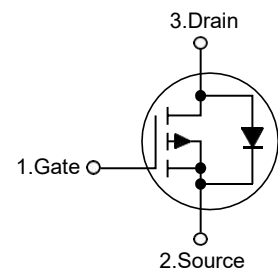
1. Gate 2. Source 3. Drain

Marking Code: R7

Applications

- PWM applications
- Load switch
- Power management

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$-V_{DS}$	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous	$-I_D$	2.7	A
Maximum Power Dissipation	P_D	0.9	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance, Junction-to-Ambient ^{Note1}	$R_{\theta JA}$	139	°C/W
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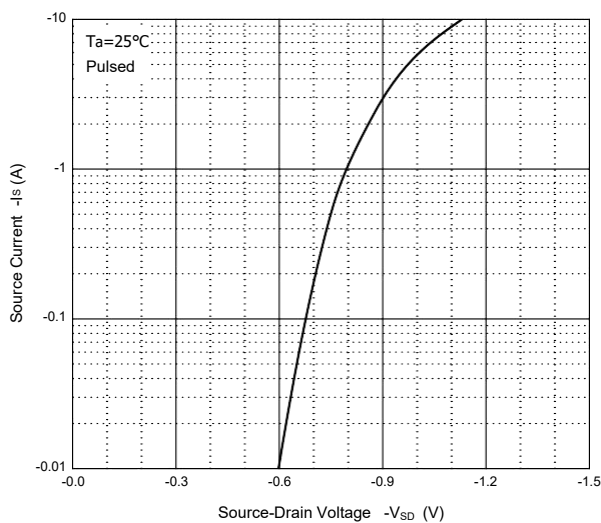
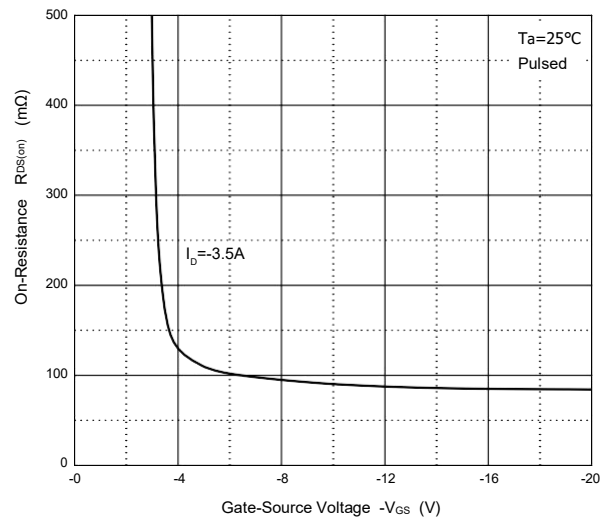
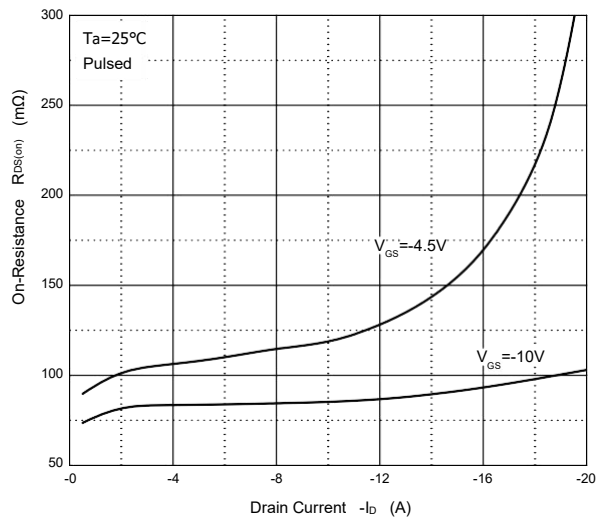
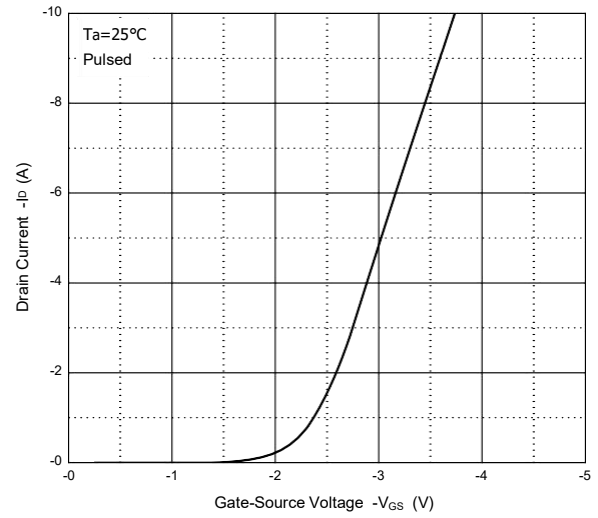
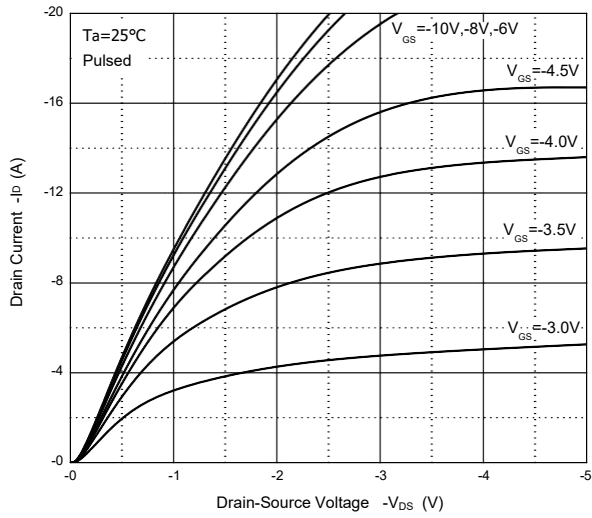
Electrical Characteristics

(Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	-V _{(BR)DSS}	V _{GS} =0V,I _D =-250μA	30	--	--	V
Zero Gate Voltage Drain Current	-I _{DSS}	V _{DS} =-30V,V _{GS} =0V	--	--	1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±20V,V _{DS} =0V	--	--	±100	nA
Gate Threshold Voltage ^{Note2}	-V _{GS(th)}	V _{DS} =V _{GS} ,I _D =-250μA	1	--	3	V
Drain-Source On-Resistance ^{Note2}	R _{DS(on)}	V _{GS} =-10V,I _D =-3.5A	--	73	88	mΩ
		V _{GS} =-4.5V,I _D =-2.5A	--	110	138	mΩ
Forward Transconductance ^{Note2}	g _{FS}	V _{DS} =-10V,I _D =-3.5A	--	7	--	S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =-15V,V _{GS} =0V,f=1MHz	--	340	--	pF
Output Capacitance	C _{oss}		--	67	--	pF
Reverse Transfer Capacitance	C _{rss}		--	51	--	pF
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =-15V, I _D =-1A,R _L =15Ω V _{GS} =-4.5V,R _{GEN} =1Ω	--	40	60	nS
Turn-on Rise Time	t _r		--	40	60	nS
Turn-off Delay Time	t _{d(off)}		--	20	40	nS
Turn-off Fall Time	t _f		--	17	30	nS
Total Gate Charge	Q _g	V _{DS} =-15V,I _D =-2.5A, V _{GS} =-4.5V	--	4.1	6.2	nC
Gate-Source Charge	Q _{gs}		--	1.3	--	nC
Gate-Drain Charge	Q _{gd}		--	1.8	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note2}	-V _{SD}	V _{GS} =0V,I _S =-2.7A	--	0.8	1.2	V
Diode Forward Current ^{Note1}	-I _S		--	--	2.7	A

Note: 1. Surface Mounted on FR4 Board, $t \leq 10$ sec.
2. Pulse Test: Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

Typical Characteristic Curves





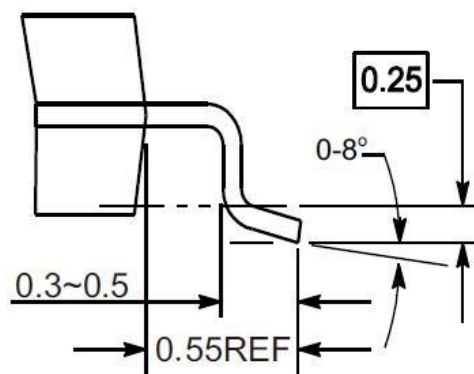
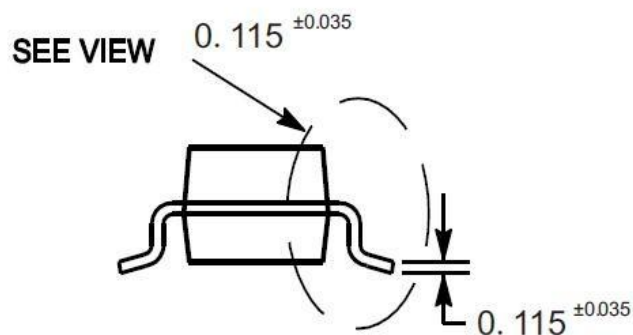
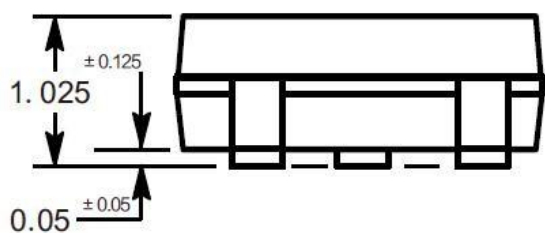
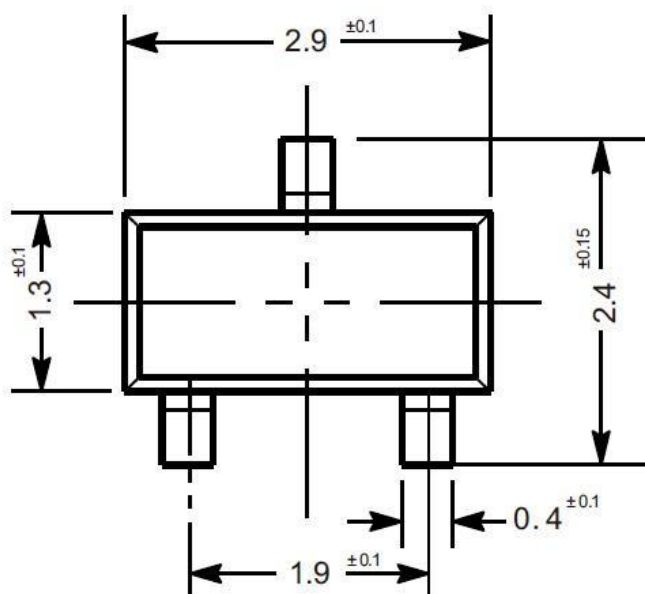
PJM2307PSA

P-Channel Enhancement Mode Power MOSFET

Package Outline

SOT-23

Dimensions in mm



VIEW C

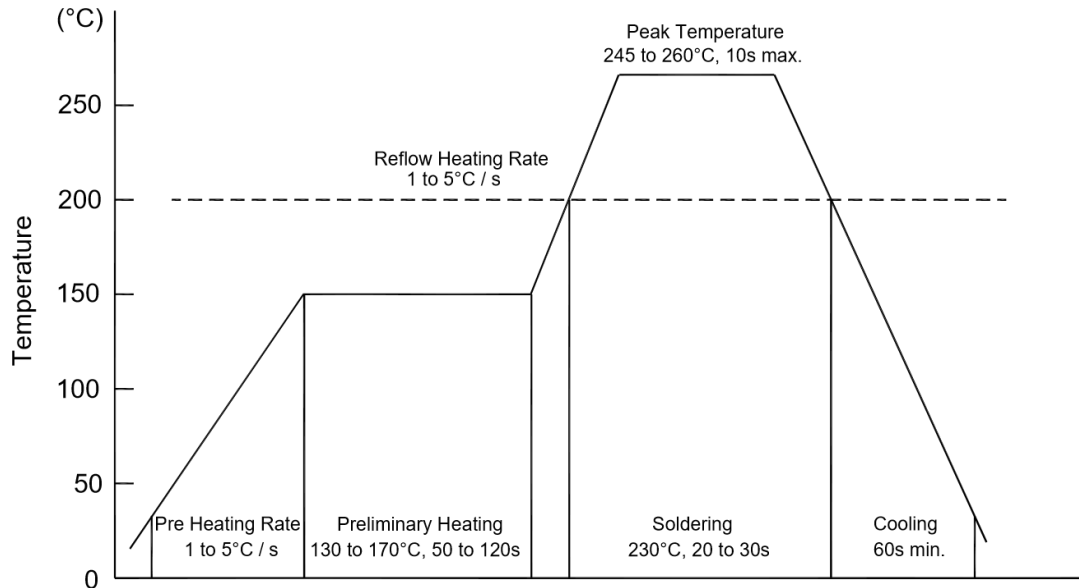
Ordering Information

Device	Package	Shipping
TN2307PSA	SOT-23	3,000PCS/Reel&7inches



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

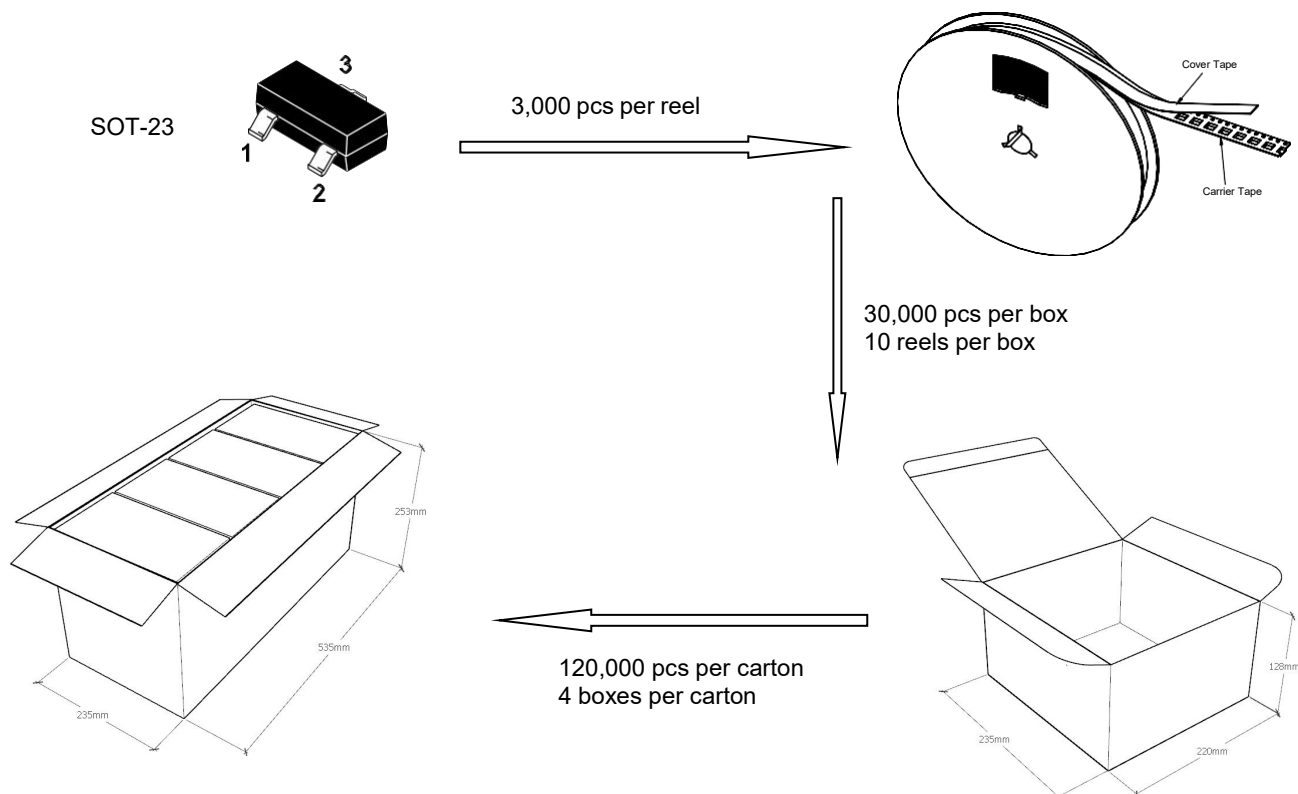
- Temperature: 370 °C
- Time: 3s max.
- Times: one time

◆ Storage conditions

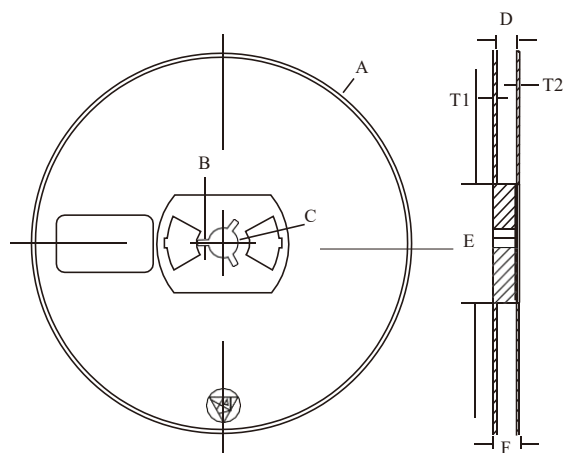
- **Temperature**
5 to 40 °C
- **Humidity**
30 to 80% RH
- **Recommended period**
One year after manufacturing

Package Specifications

- The method of packaging



◆ Embossed tape and reel data



Symbol	Value (unit: mm)
A	Ø 177.8±1
B	2.7±0.2
C	Ø 13.5±0.2
E	Ø 54.5±0.2
F	12.3±0.3
D	9.6+2/-0.3
T1	1.0±0.2
T2	1.2±0.2

