



PJM20H02ANSC

N-Channel Enhancement Mode Power MOSFET

Product Summary

- $V_{DS}=200V, I_D=2A$
- $R_{DS(on)} < 1.9\Omega @ V_{GS}=10V$

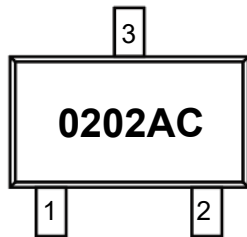
Features

- Advanced Trench Technology
- Halogen and Antimony Free
- Moisture Sensitivity Level 3

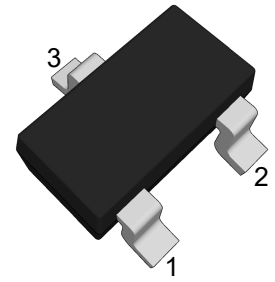
Application

- Synchronous Buck Converter Applications

Marking Code



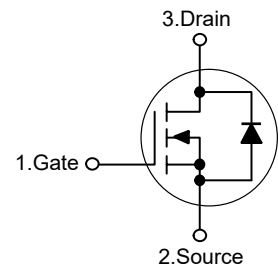
SOT-23-3



(Top View)

Pin	Description
1	Gate
2	Source
3	Drain

Schematic Diagram



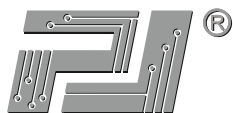
Absolute Maximum Ratings

(Ta=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	200	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous	I_D	2.0	A
Maximum Power Dissipation	P_D	1.25	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance, Junction-to-Ambient ^{Note1}	$R_{\theta JA}$	100	°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	200	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =200V,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	1.0	--	2.5	V
Drain-Source On-Resistance ^{Note2}	R _{DS(on)}	V _{GS} =10V,I _D =0.5A	--	--	1.9	Ω
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =25V,V _{GS} =0V,f=1MHz	--	900	--	pF
Output Capacitance	C _{oss}		--	130	--	pF
Reverse Transfer Capacitance	C _{rss}		--	4.6	--	pF
Total Gate Charge	Q _g	V _{DS} =160V,I _D =1.5A, V _{GS} =10V	--	15	--	nC
Gate-Source Charge	Q _{gs}		--	3	--	nC
Gate-Drain Charge	Q _{gd}		--	5.2	--	nC
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =100V,I _D =1.5A, V _{GS} =10V,R _{GEN} =3Ω	--	25	--	nS
Turn-on Rise Time	t _r		--	36	--	nS
Turn-off Delay Time	t _{d(off)}		--	48	--	nS
Turn-off Fall Time	t _f		--	14	--	nS
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note2}	V _{SD}	V _{GS} =0V,I _S =2A	--	--	1.0	V
Diode Forward Current	I _S		--	--	2	A

Note: 1. Surface Mounted on FR4 Board, $t \leq 10$ sec.

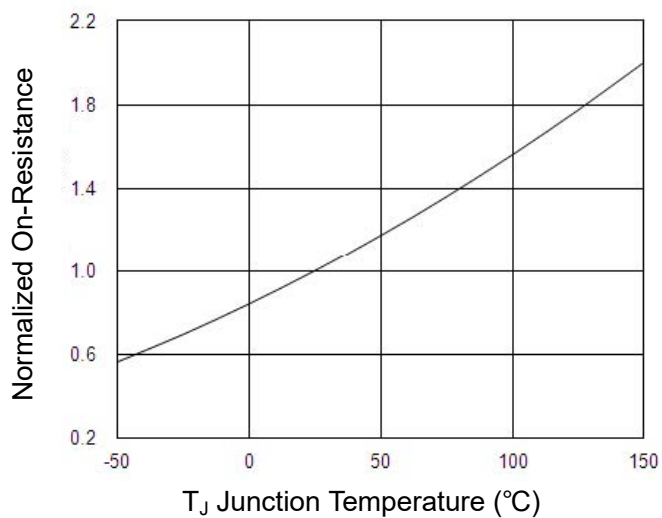
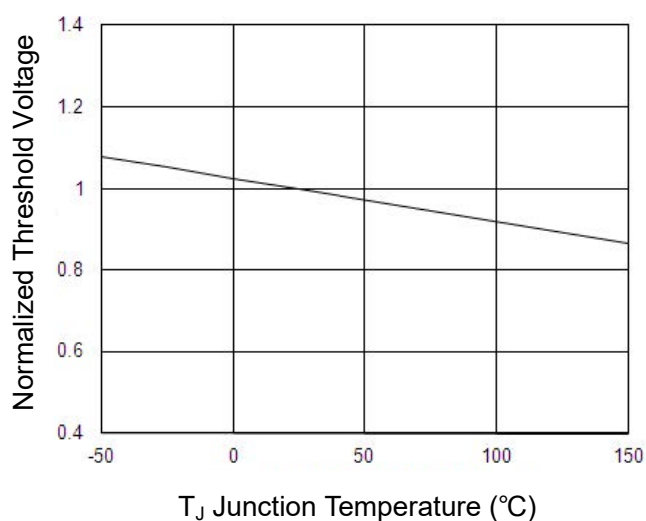
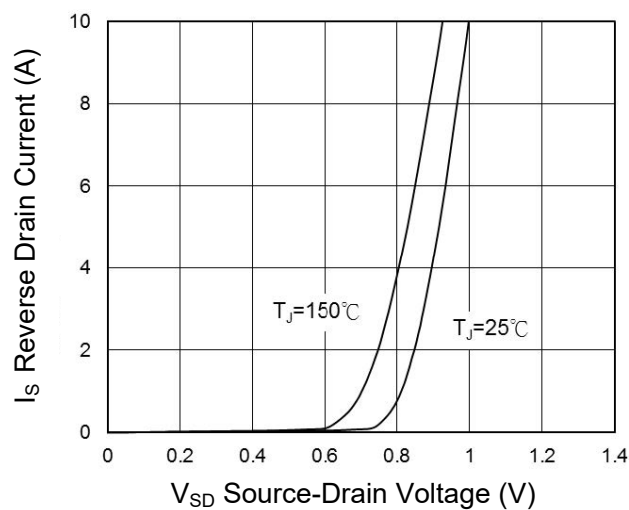
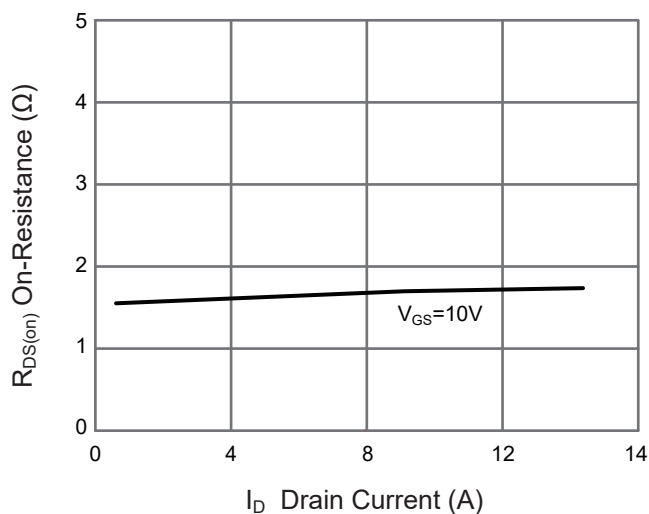
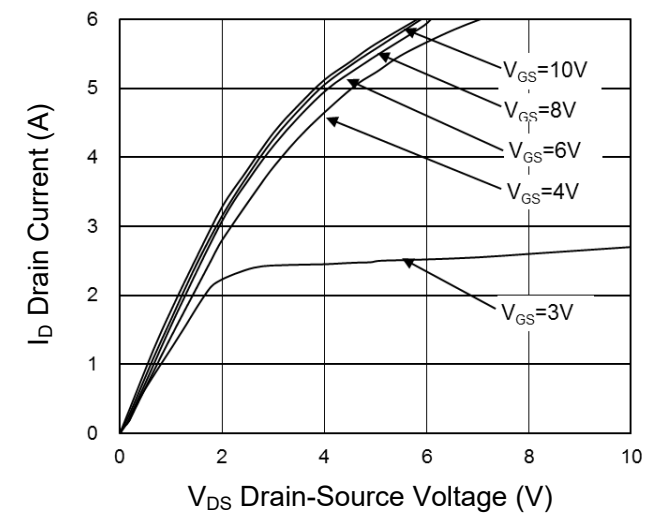
2. Pulse Test: Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.



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Typical Characteristic Curves





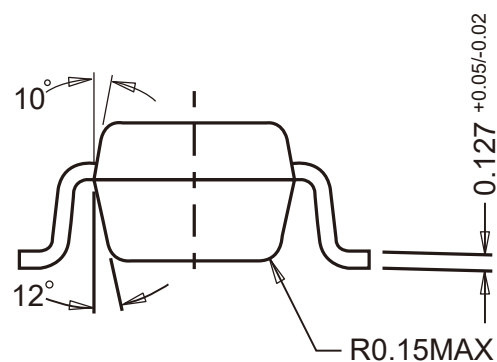
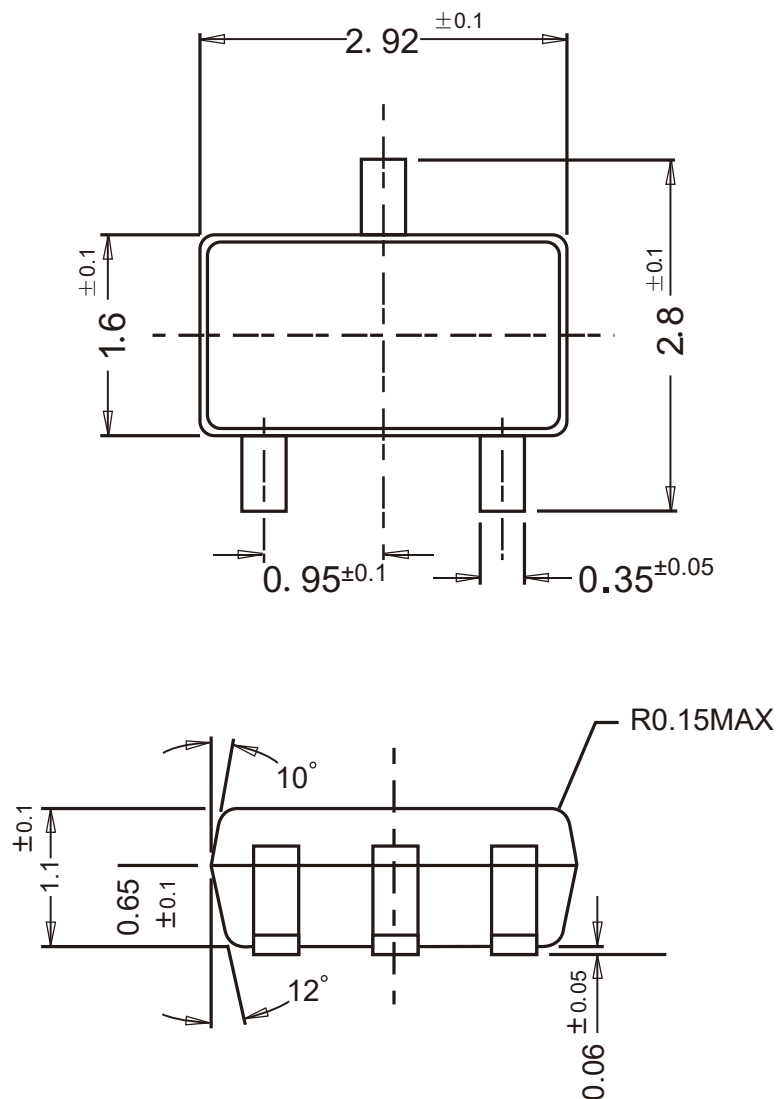
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Package Outline

SOT-23-3

Dimensions in mm



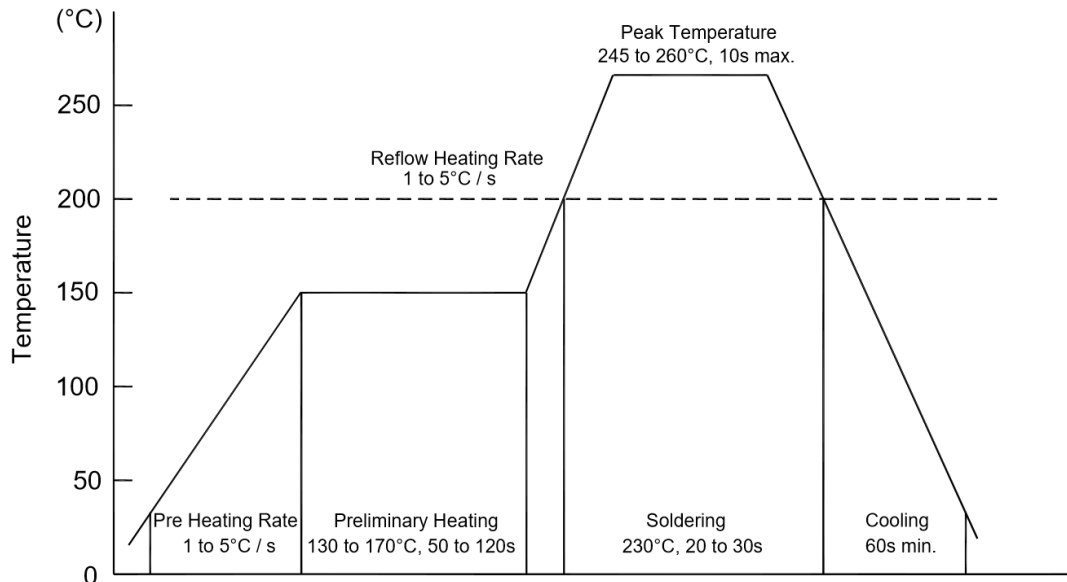
Ordering Information

Device	Package	Shipping
PJM20H02ANSC	SOT-23-3	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

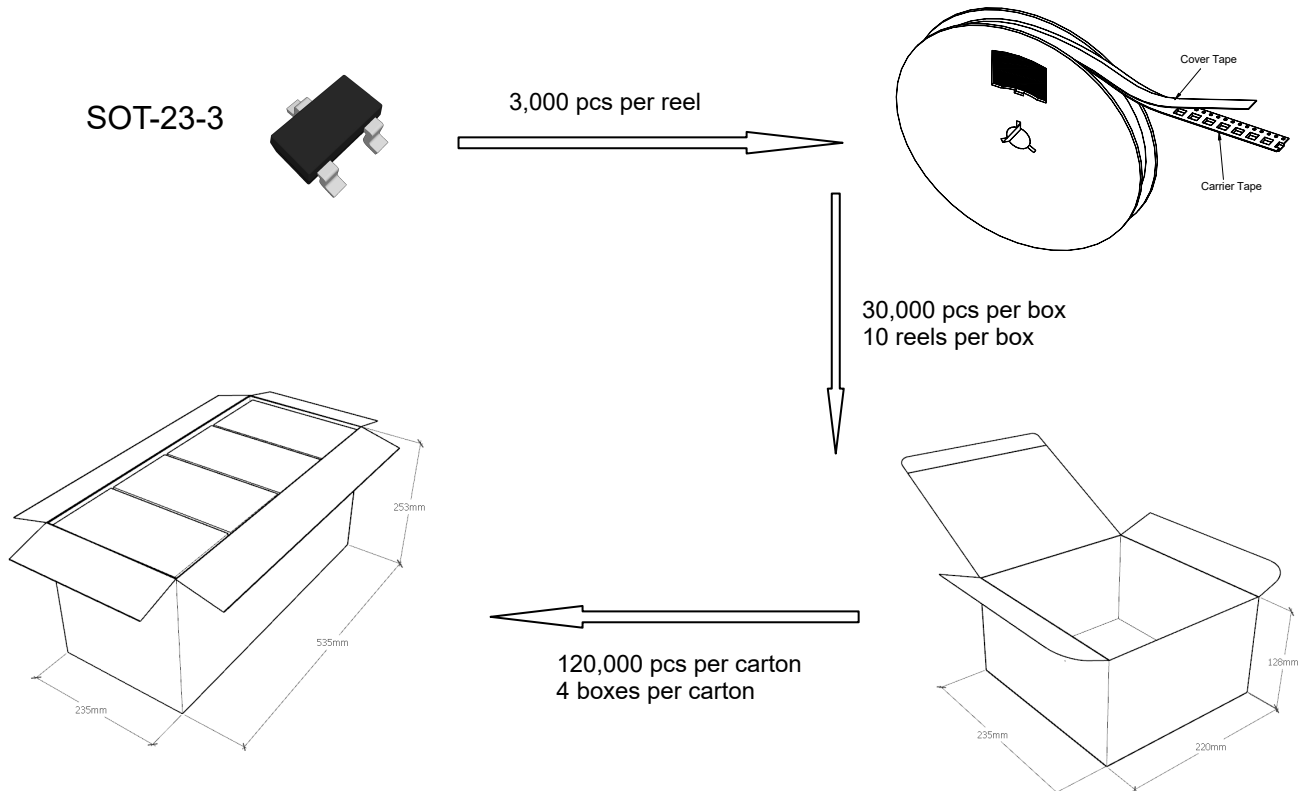


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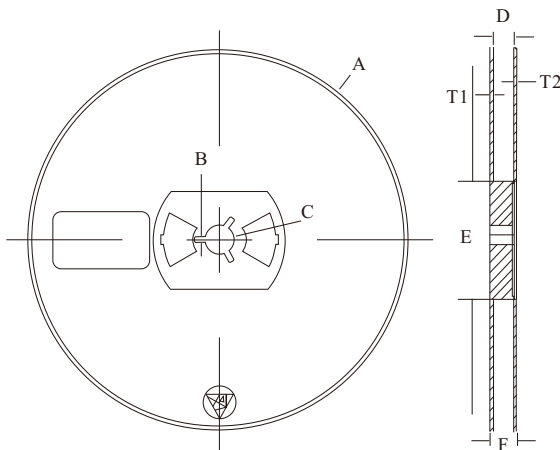
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Package Specifications

- The method of packaging

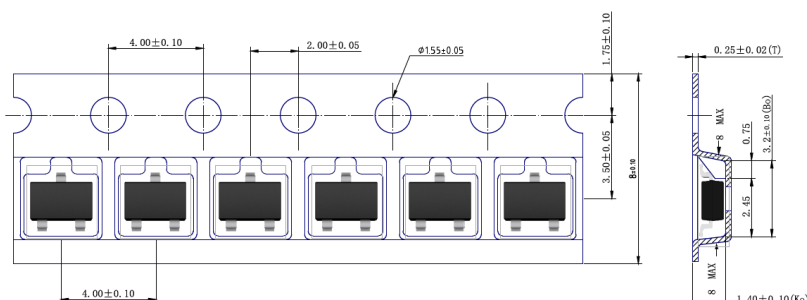


◆ Embossed tape and reel data



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

Reel (7")



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