



PJM60H02NST

N-Channel Enhancement Mode Power MOSFET

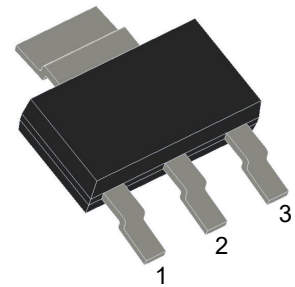
Features

- Fast Switching
- Low On Resistance
- $V_{DS} = 600V$, $I_D = 1A$
 $R_{DS(ON)} < 10\Omega$ @ $V_{GS} = 10V$

Application

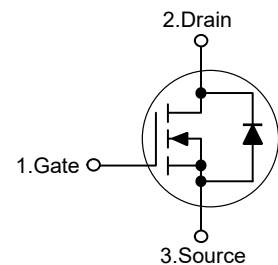
- Power switching application
- Hard switched and high frequency circuits
- Uninterruptible power supply

SOT-223



1. Gate 2.Drain 3.Source

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25°C Case temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	600	V
Gate-Source Voltage	V_{GS}	± 30	V
Drain Current-Continuous	I_D	1	A
Drain Current-Pulsed ^{Note1}	I_{DM}	4	A
Single pulse avalanche energy ^{Note4}	E_{AS}	20	mJ
Avalanche energy, Repetitive ^{Note1}	E_{AR}	6	mJ
Avalanche Current ^{Note1}	I_{AR}	1.1	A
Maximum Power Dissipation	P_D	0.8	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance, Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	100	°C/W
Maximum Junction-to-Case ^{Note2}	$R_{\theta JC}$	14	°C/W



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Electrical Characteristics

(T_C=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	600	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =600V, V _{GS} =0V	--	--	1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±30V, V _{DS} =0V	--	--	±100	nA
Gate Threshold Voltage ^{Note3}	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	2	--	4	V
Drain-Source On-Resistance ^{Note3}	R _{DS(on)}	V _{GS} =10V, I _D =0.5A	--	7.5	10	Ω
Forward Transconductance ^{Note3}	g _{FS}	V _{DS} =15V, I _D =0.5A	--	0.8	--	S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1MHz	--	127	--	pF
Output Capacitance	C _{oss}		--	14.5	--	pF
Reverse Transfer Capacitance	C _{rss}		--	2.9	--	pF
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =300V, I _D =1A V _{GS} =10V, R _G =4.7Ω	--	6.3	--	nS
Turn-on Rise Time	t _r		--	5	--	nS
Turn-off Delay Time	t _{d(off)}		--	24	--	nS
Turn-off Fall Time	t _f		--	15.3	--	nS
Total Gate Charge	Q _g	V _{DD} =300V, I _D =1A, V _{GS} =10V	--	4.7	--	nC
Gate-Source Charge	Q _{gs}		--	0.8	--	nC
Gate-Drain Charge	Q _{gd}		--	2.4	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	V _{SD}	V _{GS} =0V, I _S =1A	--	--	1.5	V
Diode Forward Current ^{Note2}	I _S		--	--	1	A

Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.

2. Surface Mounted on FR4 Board, t ≤ 10 sec.

3. Pulse Test: Pulse width ≤ 380μs, duty cycle ≤ 2%

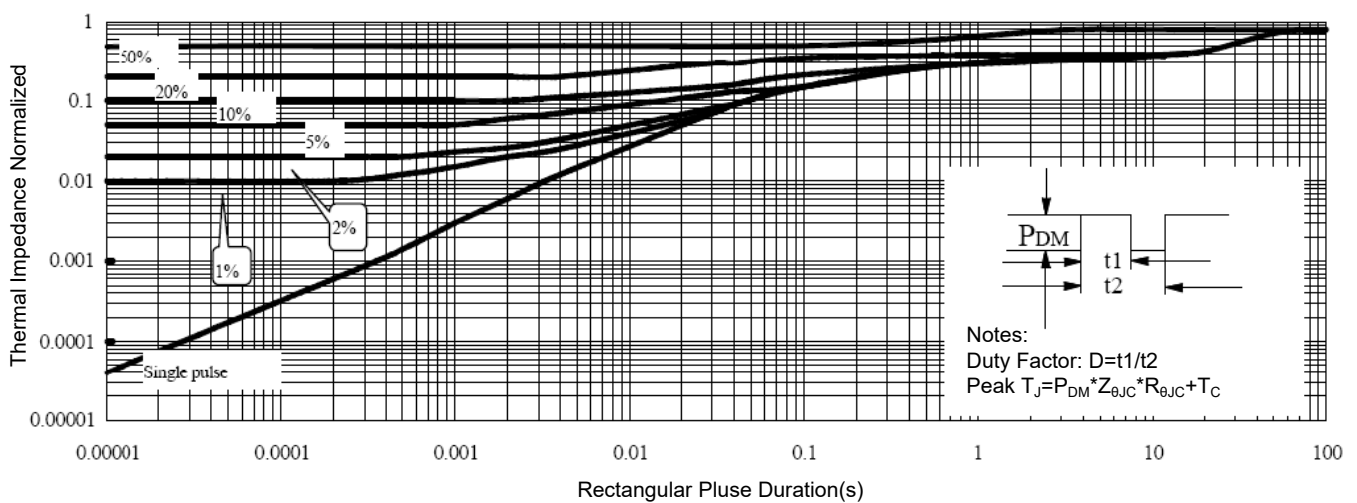
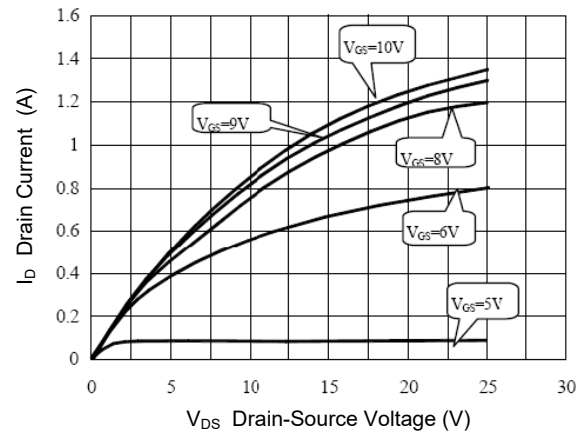
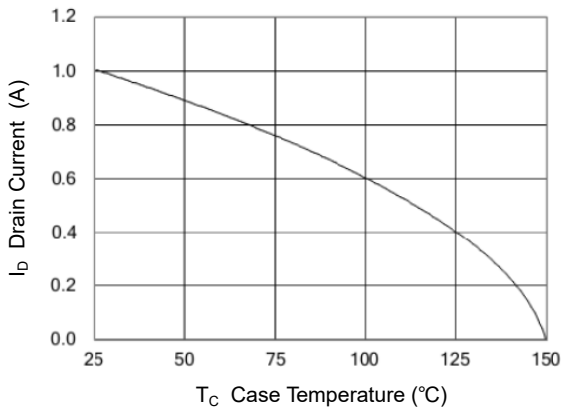
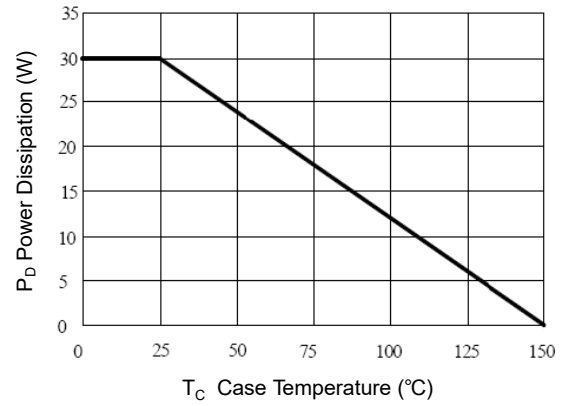
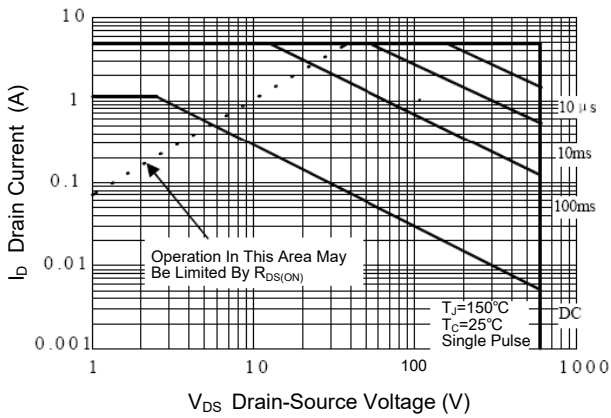
4. E_{AS} Condition: T_J=25°C, I_D=2A, V_{GS}=10V, L=10mH



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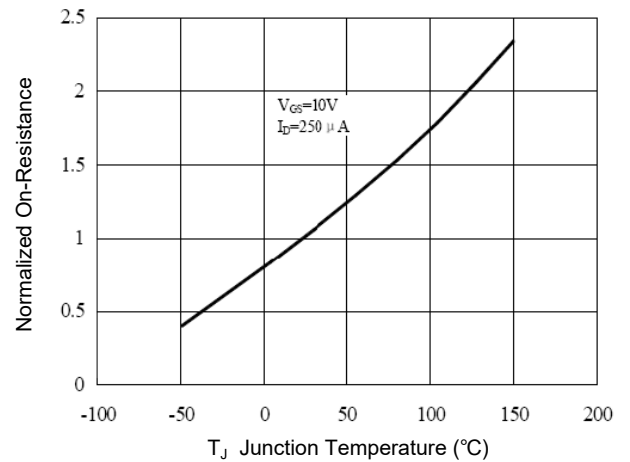
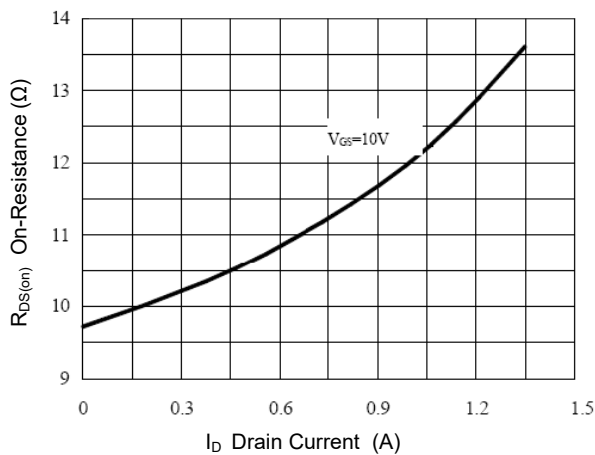
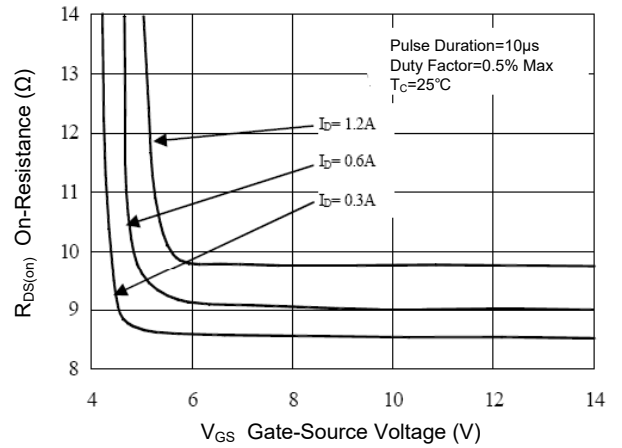
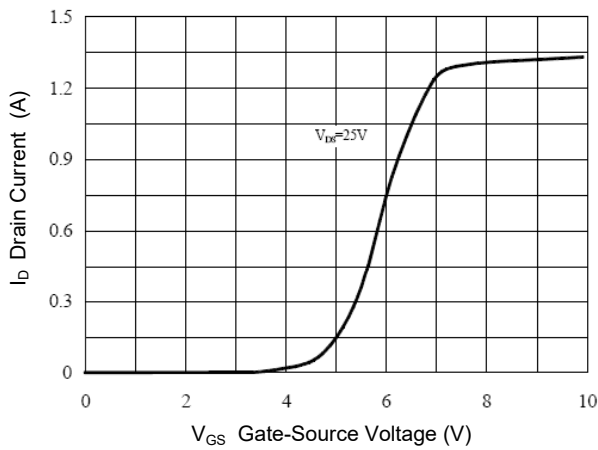
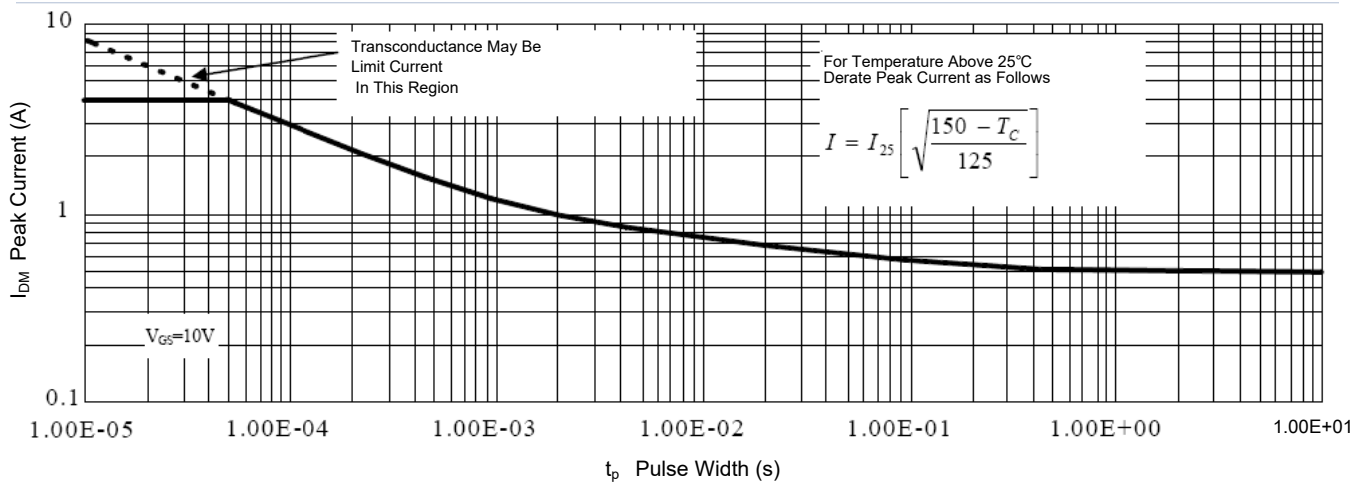
Typical Characteristic Curves





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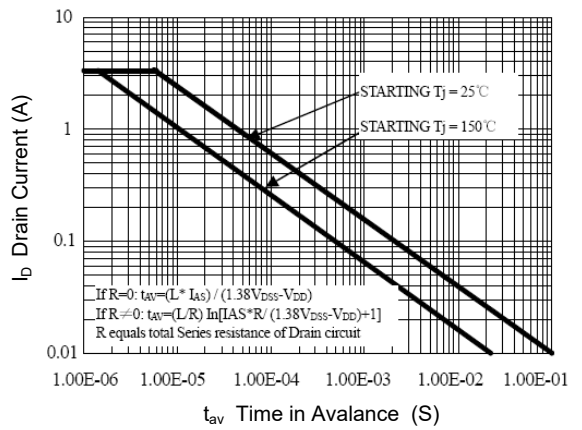
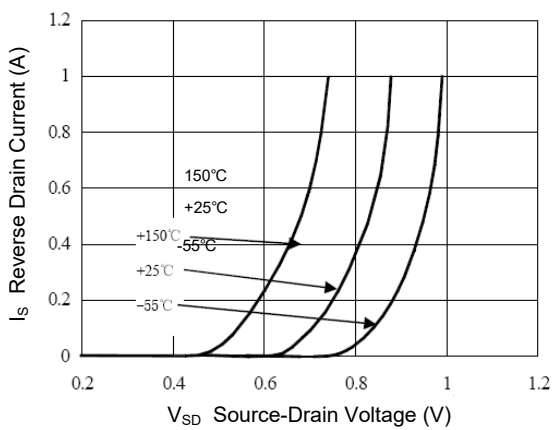
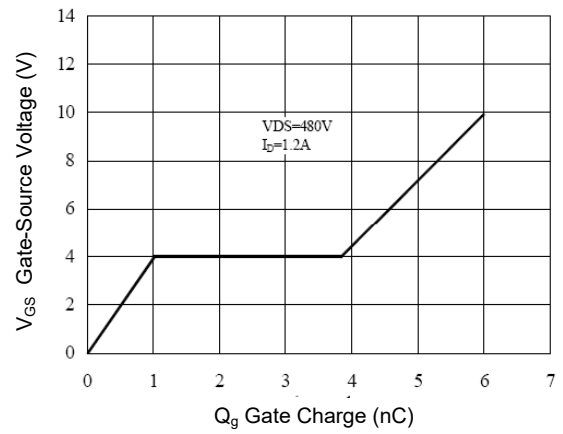
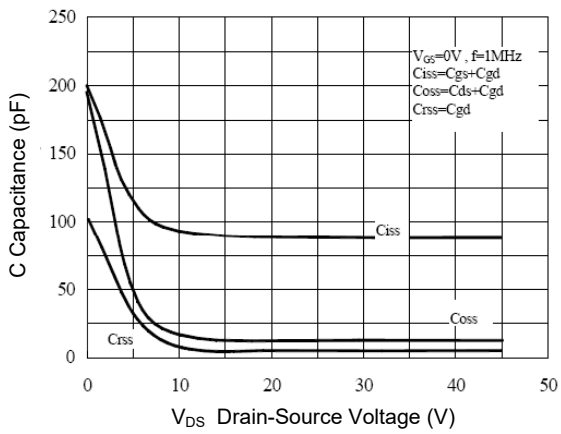
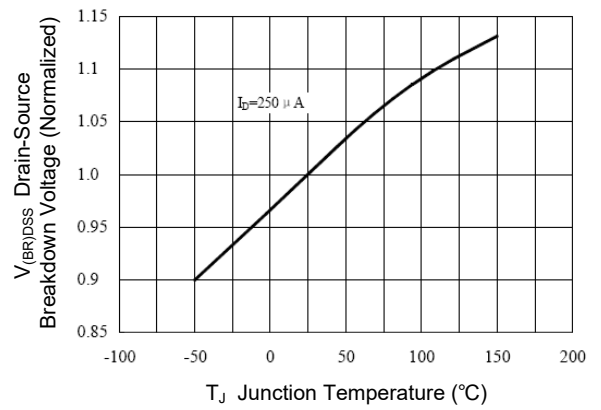
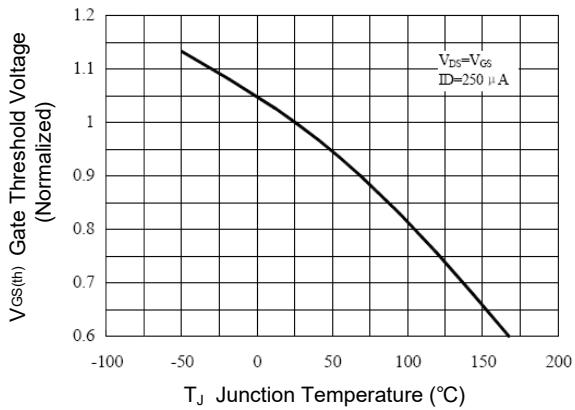
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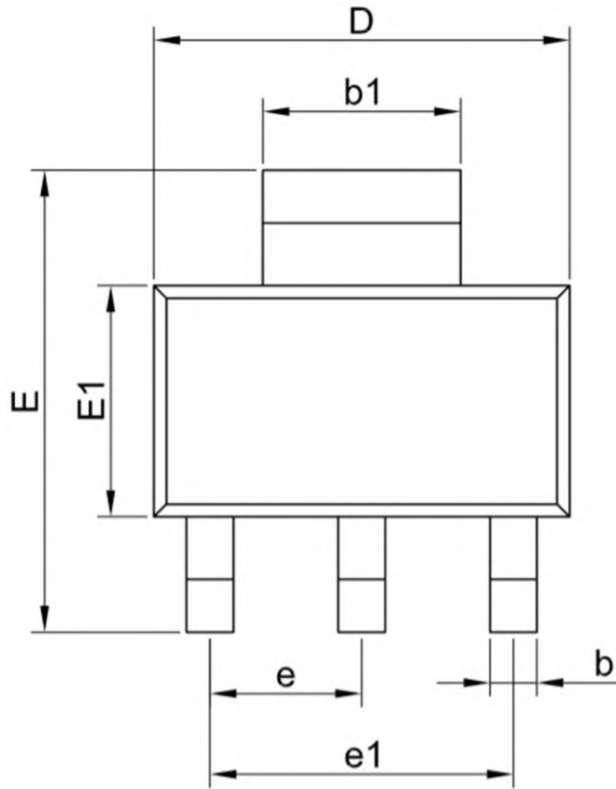
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Package Outline

SOT-223

Dimensions in mm



SYMBOL	MIN	NOM	MAX
A	1.55	—	1.80
A1	0.02	—	0.12
A2	1.45	1.60	1.75
A3	0.60	0.70	0.80
b	0.60	—	0.80
b1	2.90	—	3.10
c	0.24	—	0.32
D	6.20	6.30	6.50
E	6.70	7.00	7.30
E1	3.30	3.50	3.70
e	2.299REF		
e1	4.598REF		
L	0.90MIN		
L2	0.30BSC		
θ	0°	—	10°
θ_1	10°	12°	14°
θ_2	10°	12°	14°

