

600V N-Channel MOSFET

FEATURE

- Low gate charge
- Low Crss
- Fast switching capability
- 100% avalanche test
- Improved dv/dt capability
- RoHS products

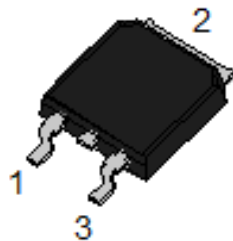
➤ Main parameters:

I_D	1.2A
V_{DSS}	600V
$R_{dson}(V_{gs}=10V)$	<8.5Ω

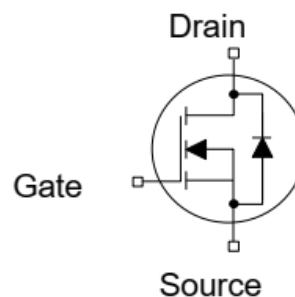
APPLICATIONS

- LED Lighting
- Charger
- Standby Power

PIN ASSIGNMENTS



TO-252



Schematic diagram

PIN DESCRIPTION

PIN NUMBER	PIN NAME	DESCRIPTION
1	G	Gate
2	D	Drain
3	S	Source

ORDERING INFORMATIONS

PART NUMBER	PACKAGE	CASING
PMS01N60	TO-252	2,500 pcs/ Tape & Reel

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ABSOLUTE MAXIMUM RATINGS ⁽¹⁾

(All specification below at Ta=25°C; unless otherwise specified.)

符号 Symbol	项目 Parameter		数值 Value	单位 Unit
V _{DSS}	Drain-Source Voltage		600	V
V _{GSS}	Gate-Source Voltage		±30	V
I _D	Continuous Drain Current	T _c = 25°C	1.2	A
	Continuous Drain Current	T _c = 100°C	0.75	A
I _{DM}	Pulsed Drain Current ⁽¹⁾		4.0	A
E _{AS}	Single Pulsed Avalanche Energy		48	mJ
E _{AR}	Repetitive Avalanche Current		3.6	mJ
I _{AR}	Avalanche Current		1.0	A
dv/dt	Peak Diode Recovery dv/dt		4	V/ns
P _D	Power Dissipation (T _c = 25°C)		30	W
R _{θJA}	Thermal Resistance from Junction to Ambient		105	° C/W
R _{θJC}	Thermal Resistance from Junction to Case		4.17	° C/W
T _J	Junction Temperature		-55 ~ +150	° C
T _{STG}	Storage Temperature		-55 ~ +150	° C

NOTES:

(1) The drain current is limited by the highest junction temperature.

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ELECTRICAL CHARACTERISTICS (2-4)

(All specification below at $T_a=25^{\circ}\text{C}$; unless otherwise specified.)

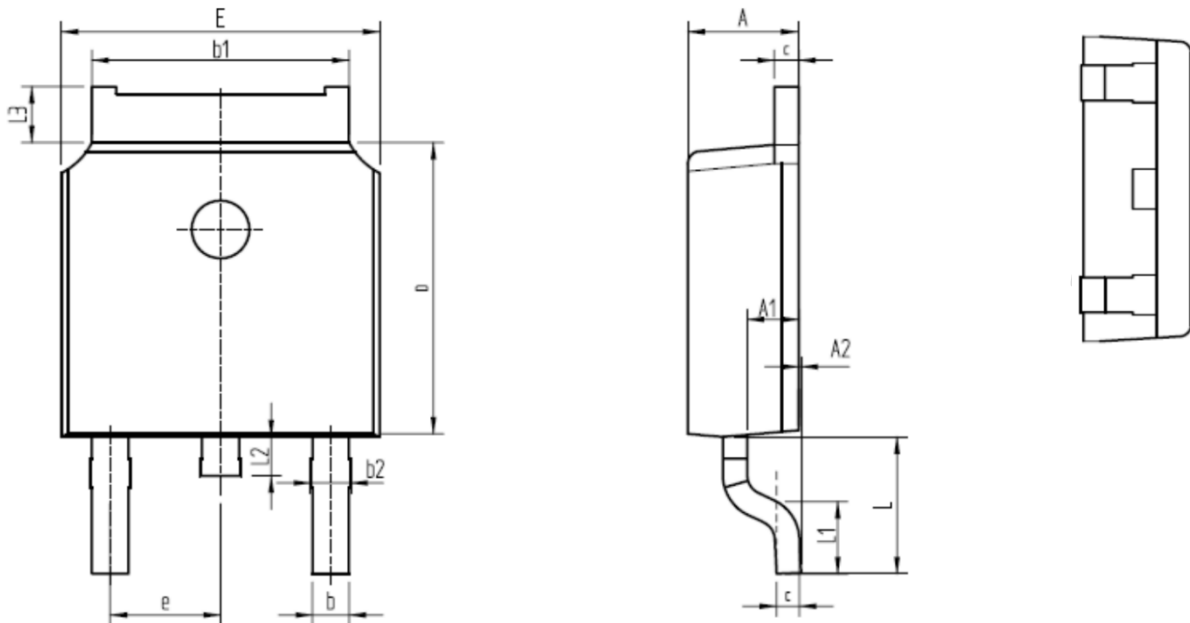
Symbol	Parameter	Test Condition	Min	Type	Max	Unit
Off Characteristic						
BV_{DSS}	Drain-source Breakdown voltage	$V_{GS}=0V, I_D=250\mu A$	600			V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=600V, V_{GS}=0V$			10	μA
		$V_{DS}=480V, T_C=125^{\circ}\text{C}$			100	μA
I_{GSS}	Gate-body leakage current	$V_{GS}=\pm 30V, V_{DS}=0V$			± 100	nA
On Characteristics						
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	2	-	4	V
$R_{DS(on)}$	Static Drain-Source on-Resistance ⁽²⁾	$V_{GS}=10V, I_D=0.5A$		8	8.5	Ω
Drain-Source Diode Characteristics and Maximum Ratings						
I_S	Maximum Continuous Drain to Source Diode Forward Current				1.2	A
I_{SM}	Maximum Pulsed Drain to Source Diode Forward Current				4.8	A
V_{SD}	Drain to Source Diode Forward Voltage	$V_{GS}=0V, I_S=1.2A$			1.4	V
Dynamic Characteristics						
C_{ISS}	Input capacitance	$V_{DS}=25V, V_{GS}=0V,$ $f=1\text{MHz}$		247	319	pF
C_{OSS}	Output capacitance			23	30	pF
C_{RSS}	Reverse transfer capacitance			4.9	6.4	pF

NOTES:

- (2) The pulse width is limited by the highest junction temperature.
- (3) Pulse test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
- (4) Guaranteed by design, not subject to producing

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PACKAGE INFORMATION



单位 Unit: mm

SYMBOL	mm	
	MIN	MAX
A	2.16	2.41
A1	0.97	1.17
A2	0.00	0.15
b	0.63	0.93
b1	5.13	5.53
b2	0.66	0.96
c	0.40	0.60
D	5.80	6.40
E	6.30	6.90
e	2.286BSC	
L	2.50	3.30
L1	1.20	1.80
L2	0.60	1.00
L3	0.85	1.30

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VERSION INFORMATION

Modify	Version	Change Note
2023-06-01	V1.0	First Version
2024-12-17	V1.1	Internal Optimization