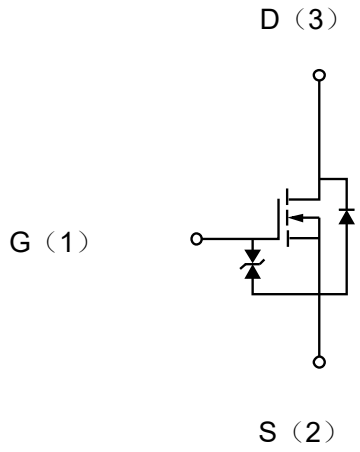
Description

The MOSFET provide the best combination of fast switching, low on-resistance and cost-effectiveness.

MOSFET Product Summary		
V_{DS}(V)	$R_{DS(on)}$(Ω)	I_D(mA)
20	0.5@ V_{GS}=4.0V	300
	0.7@ V_{GS}=2.5V	
	0.9@ V_{GS}=1.8V	



Absolute maximum rating@25℃

Parameter		Symbol	Value	Units
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±8	V
Continuous Drain Curren(T_J=150℃)	Continuous	I_D	300	mA
	Pulsed	I_{DP}	600	
Total power dissipation		P_D	250	mW
Channel temperature		T_{CH}	150	℃
Range of storage temperature		T_{STG}	-55 to +150	℃

Thermal resistance

Parameter	Symbol	Limits	Units
Channel to ambient	Rth(ch-a)	500	℃/W

Electrical characteristics per line@25℃(unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Drain-Source Breakdown Voltage	BV_{DSS}	I_D =1mA,V_{GS}=0V	20		-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =20V,V_{GS}=0V	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{DS} =0V,V_{GS}=±8V	-	-	±10	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} =10V, I_D =1mA	0.5	-	1.1	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=4.0V, I_D =300mA	-	0.3	0.5	Ω
		V_{GS}=2.5V, I_D =200mA	-	0.45	0.7	Ω
		V_{GS}=1.8V, I_D =150mA		0.6	0.9	Ω
Forward transfer admittance	| Yfs |	V_{DS}=10V, I_D =300mA	395			ms
Input Capacitance	C_{ISS}	V_{GS}=0V, V_{DS} =10V, f=1MHz	-	30		pF
Output Capacitance	C_{OSS}		-	13		pF
Reverse Transfer Capacitance	C_{RSS}		-	3		pF
Turn-On Delay Time	$t_{d(on)}$	V_{DD}≒10V, V_{GS} =4.0V, R_G=10Ω,R_L=67Ω I_D =150mA	-	7		ns
Turn-Off Delay Time	$t_{d(off)}$		-	23		ns
Turn-On Rise Time	t_r		-	15		ns
Turn-On Fall Time	t_f		-	15		ns
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V,I_S=100mA		-	1.2	V

Typical Characteristics

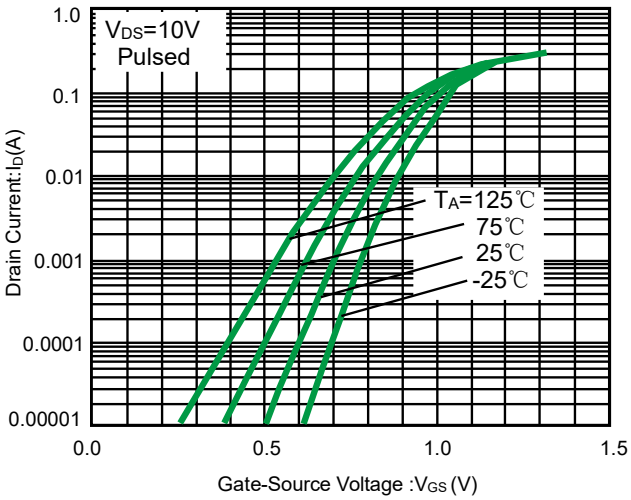


Fig 1. Typical transfer Characteristics

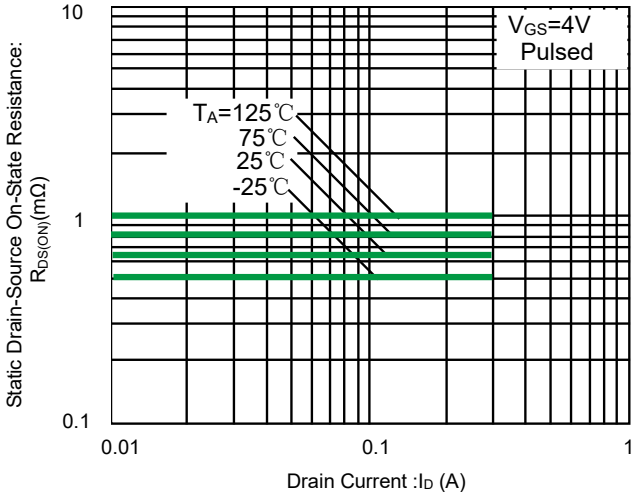


Fig 2. Static drain-source on-state resistance vs. drain current(Ⅰ)

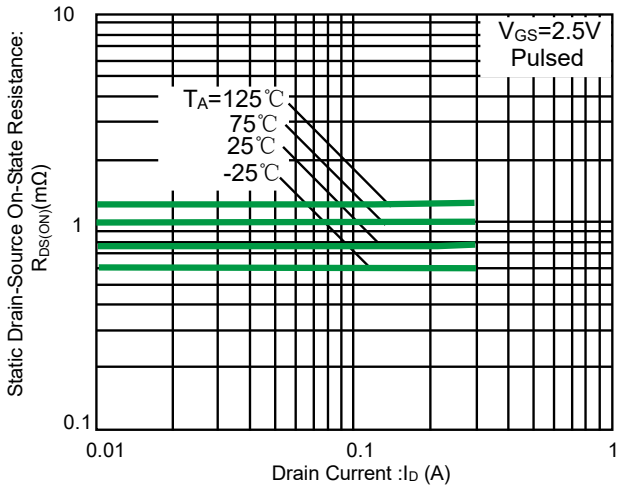


Fig 3. Static drain-source on-state resistance Vs. drain current (Ⅱ)

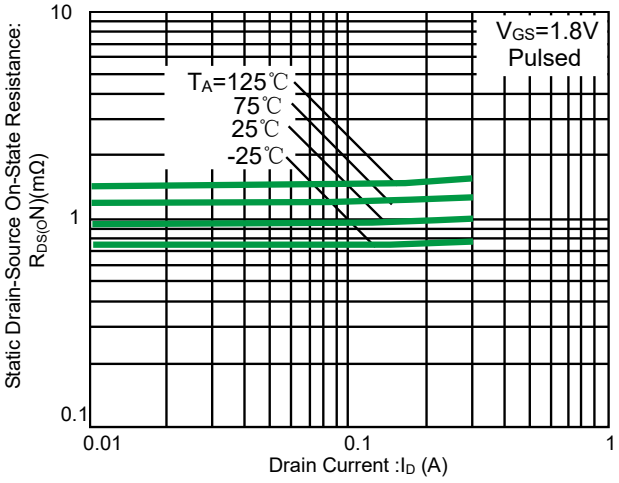


Fig 4. Static drain-source on-state resistance vs. drain current (Ⅲ)

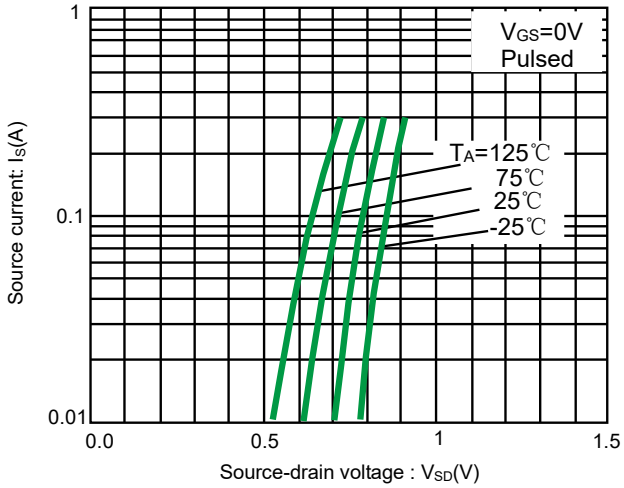


Fig 5. Source current vs. source-drain voltage

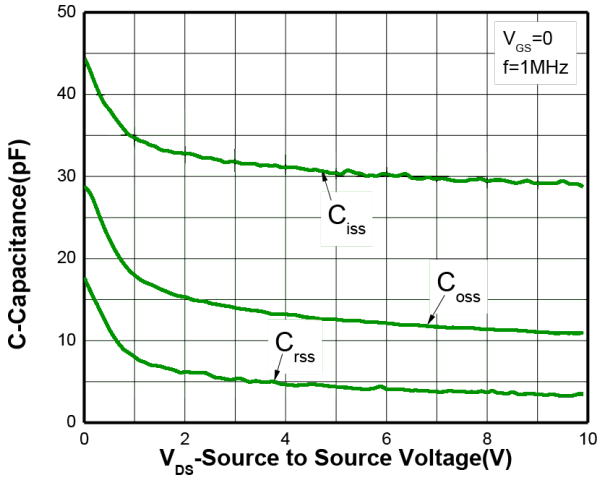


Fig 6. Typical capacitance vs. drain-source voltage

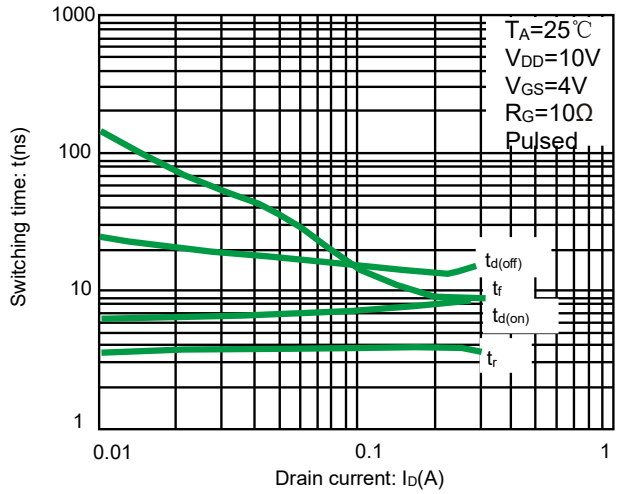


Fig 7. Switching characteristics

Switching characteristics measurement circuit

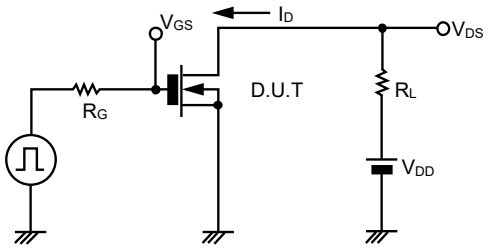


Fig.8 Switching time measurement circuit

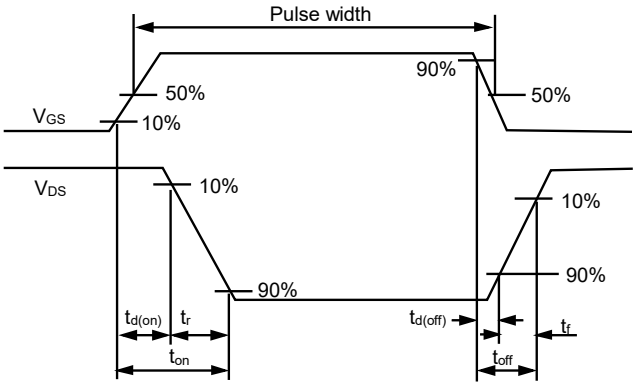
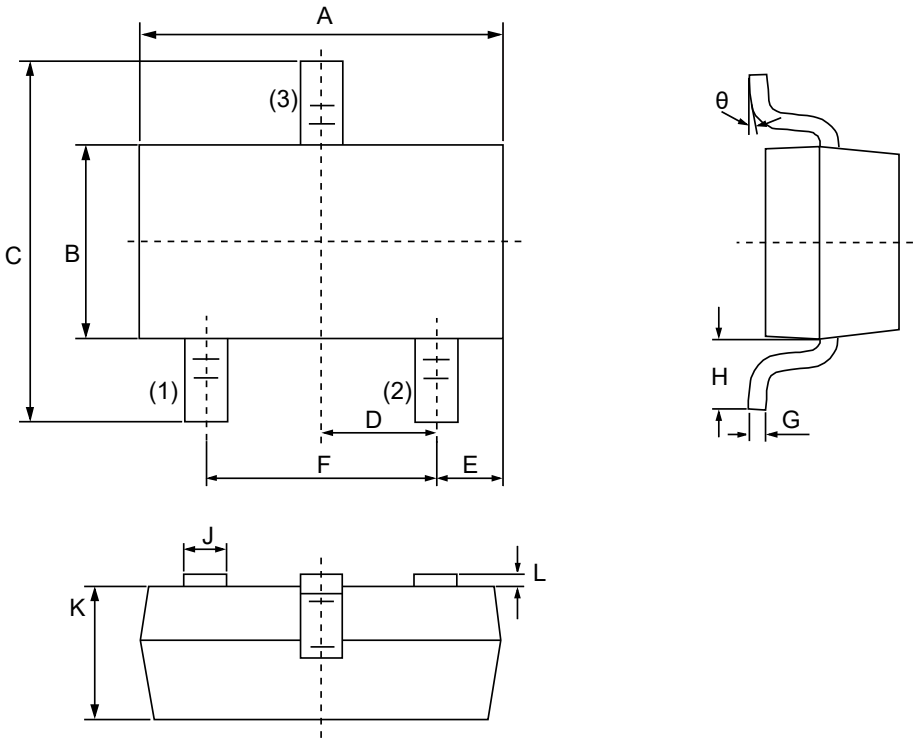
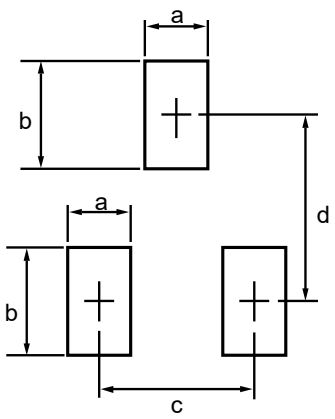


Fig.9 Switching time waveforms

Product dimension(SOT-23)

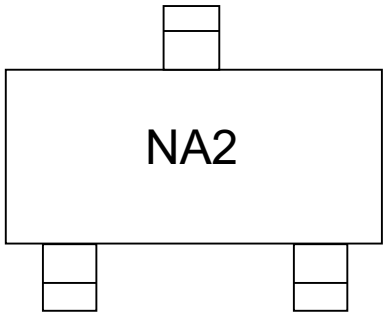


Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	2.80	3.00	0.1102	0.1197
B	1.20	1.40	0.0472	0.0551
C	2.10	2.50	0.0830	0.0984
D	0.89	1.02	0.0350	0.0401
E	0.45	0.60	0.0177	0.0236
F	1.78	2.04	0.0701	0.0807
G	0.085	0.177	0.0034	0.0070
H	0.45	0.60	0.0180	0.0236
J	0.37	0.50	0.0150	0.0200
K	0.89	1.11	0.0350	0.0440
L	0.013	0.100	0.0005	0.0040
θ	0°	10°	0°	10°



Dim	Millimeters	
	MIN	MAX
a	--	0.7
b	--	1.2
c	--	2.04
d	--	2.2

Marking information



Ordering information

Device	Package	Reel	Shipping
PNMT201E0	SOT-23 (Pb-Free)	7"	3000 / Tape & Reel

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