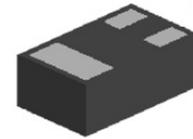


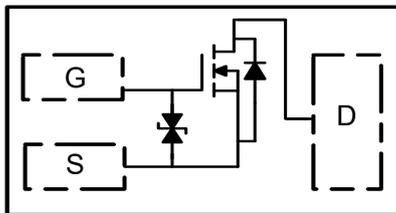
Description

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

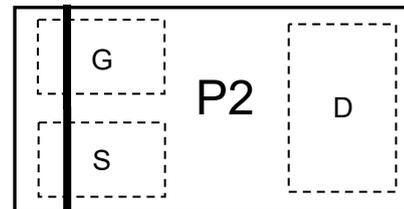
MOSFET Product Summary		
V_{DS} (V)	$R_{DS(on)}$ (Ω)	I_D (mA)
20	0.4@ $V_{GS}=4.0V$	± 300
	0.5@ $V_{GS}=2.5V$	
	0.7@ $V_{GS}=1.8V$	
ESD	HBM	
	Pass 2000V	



DFN1006-3L(Bottom View)



Circuit Diagram



Marking (Top View)

Absolute maximum rating@25°C

Parameter	Symbol	Value	Units
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 8	V
Continuous Drain Current	Continuous	± 300	mA
	Pulsed	± 600	
Total power dissipation	P_D	140	mW
Channel temperature	T_J	150	$^{\circ}C$
Range of storage temperature	T_{STG}	-55 to +150	$^{\circ}C$

Thermal resistance

Parameter	Symbol	Limits	Units
Channel to ambient	$R_{th(ch-a)}$	800	$^{\circ}C/W$

Electrical characteristics per line@25°C (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}	$V_{DS} = 0V, V_{GS} = \pm 8V$	-	-	± 10	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.5	-	1.1	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 4.0V, I_D = 300mA$	-	0.4	0.7	Ω
		$V_{GS} = 2.5V, I_D = 200mA$	-	0.5	0.8	Ω
		$V_{GS} = 1.8V, I_D = 150mA$		0.7	1.0	Ω
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 10V, I_D = 300mA$	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	$t_{d(on)}$	$V_{DD} = 10V, V_{GS} = 4.0V, R_G = 10\Omega, R_L = 67\Omega, I_D = 150mA$	-	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

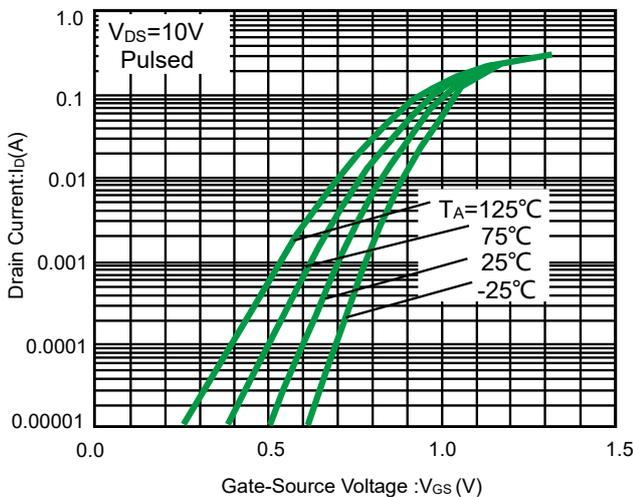


Fig 1. Typical transfer Characteristics

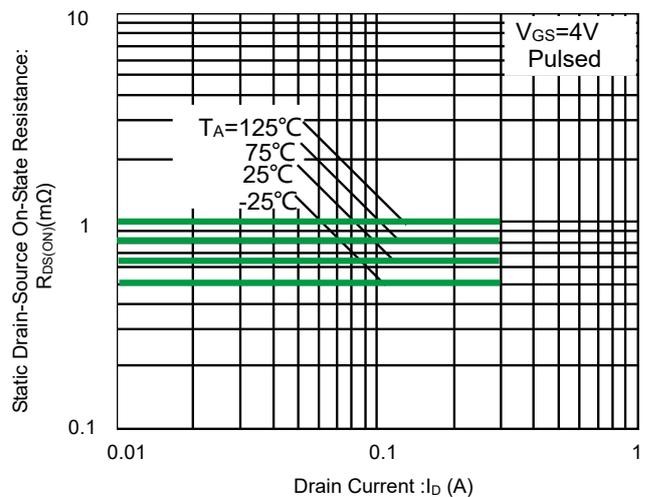


Fig 2. Static drain-source on-state resistance vs. drain current(I)

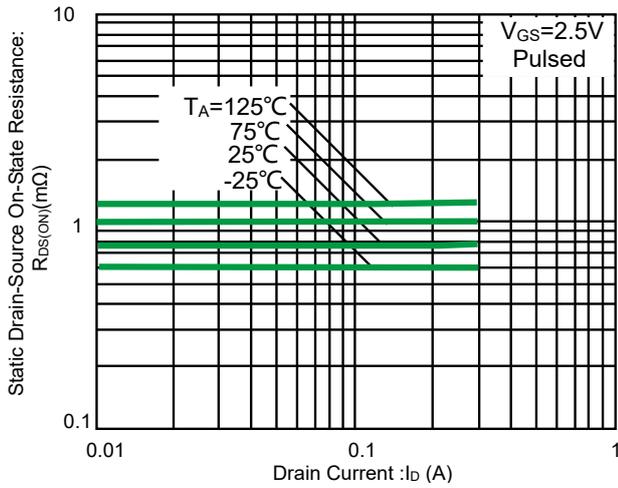


Fig 3. Static drain-source on-state resistance Vs. drain current (II)

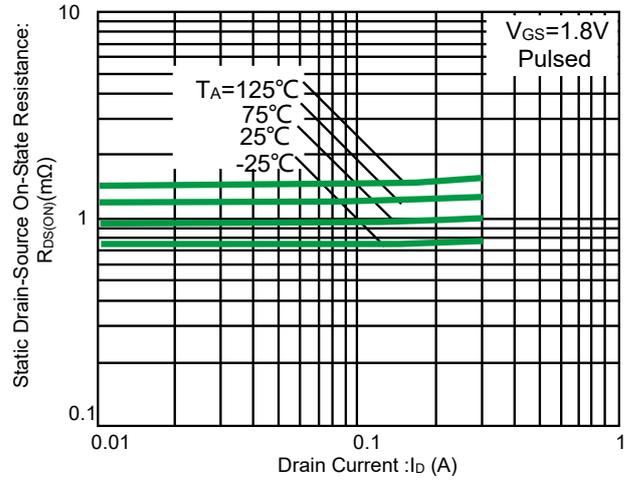


Fig 4. Static drain-source on-state resistance vs. drain current (III)

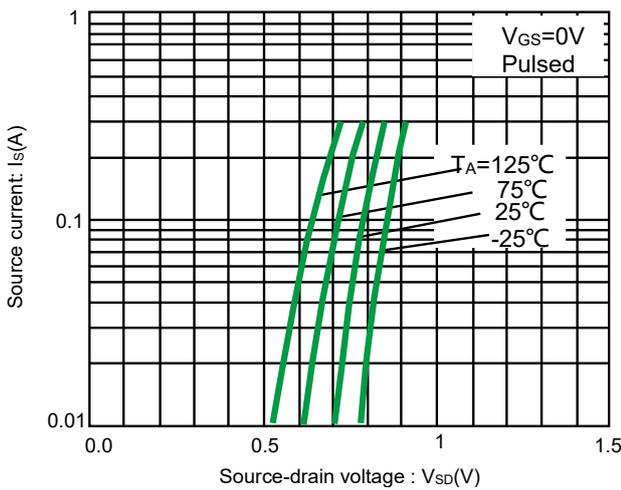


Fig 5. Source current vs. source-drain voltage

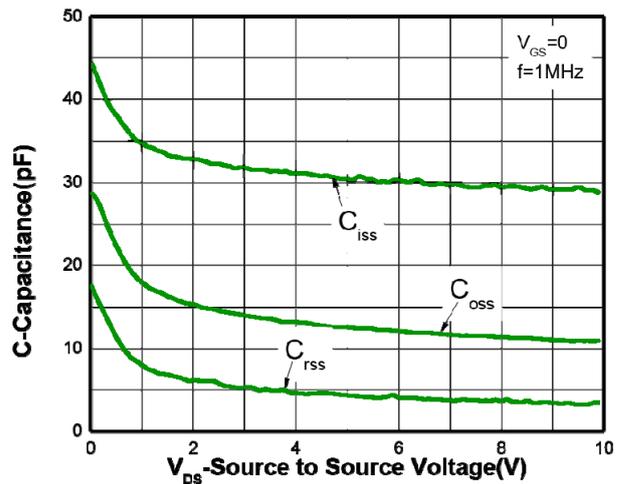


Fig 6. Typical capacitance vs. drain-source voltage

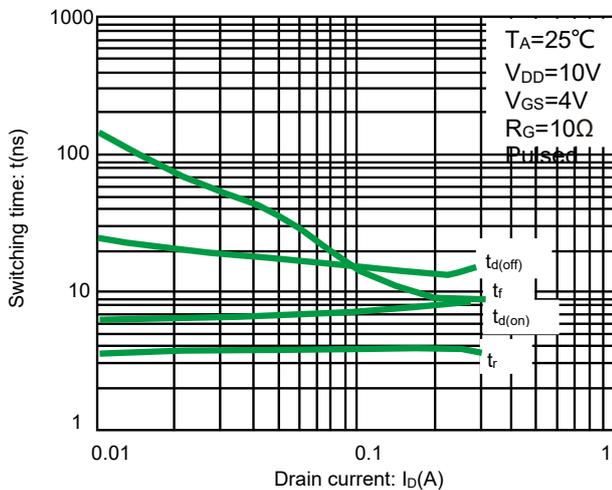


Fig 7. Switching characteristics

Switching characteristics measurement circuit

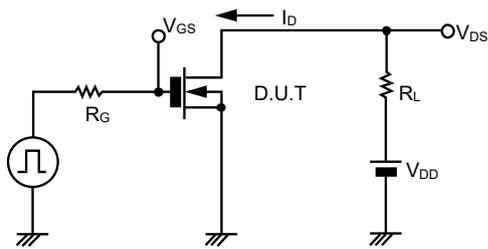


Fig.8 Switching time measurement circuit

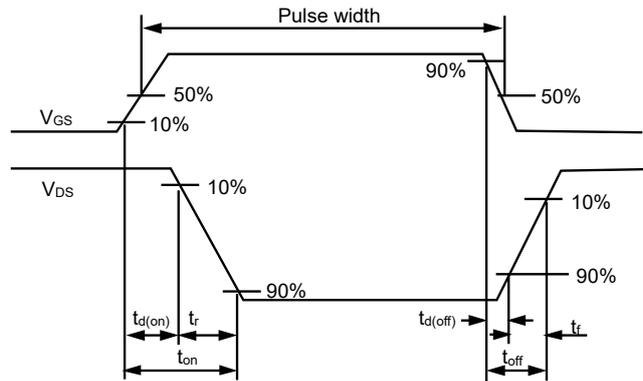
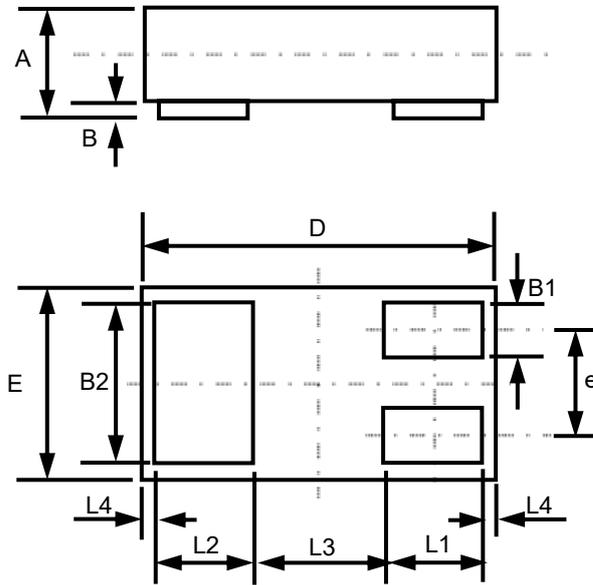
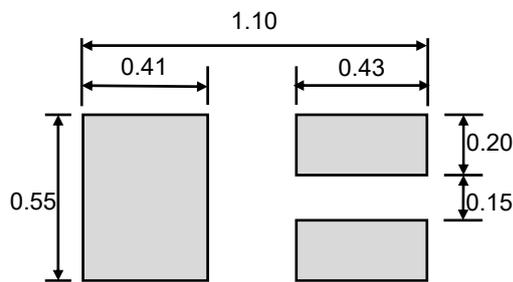


Fig.9 Switching time waveforms

Product dimension (DFN1006-3L)



Dim	Millimeters		
	MIN	Typ	MAX
A	0.33	0.47	0.498
B	0.00	0.03	0.05
B1	0.10	0.15	0.20
B2	0.45	0.50	0.55
D	0.85	1.00	1.15
E	0.45	0.60	0.75
e	--	0.35	--
L1	0.20	0.25	0.30
L2	0.20	0.25	0.30
L3	--	0.39	--
L4	--	0.05	--



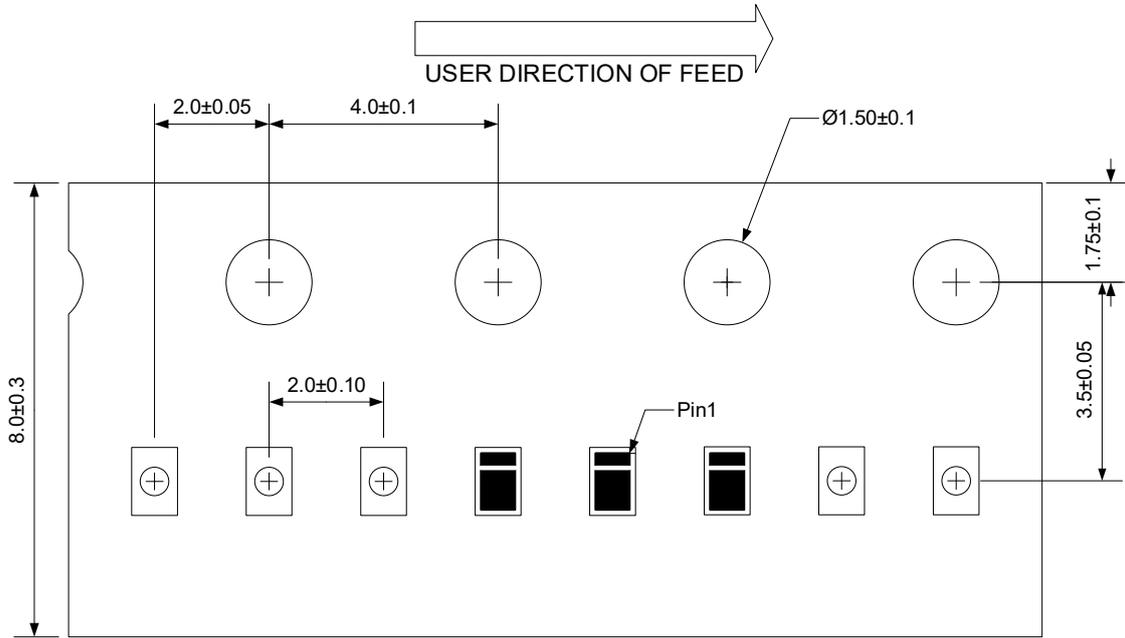
Unit: mm

Suggested PCB Layout

Ordering information

Device	Package	Reel	Shipping
PNM3FD201E0	DFN1006-3L(Pb-Free)	7"	10000 / Tape & Reel

Load with information



Unit:mm

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