

PW72KD11

60V N-Channel MOSFET

0.41A 60V; $R_{DS(ON)typ}=1.2\Omega@10V$, $R_{DS(ON)typ}=1.3\Omega@4.5V$

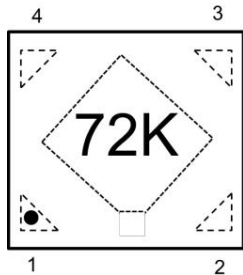
FEATURE

- Low On-Resistance
- Low Threshold Voltage
- Fast Switching Speed
- ESD Protected Gate

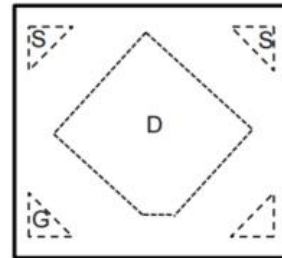
Application

- Load Switch
- Portable Applications
- Power Management Functions

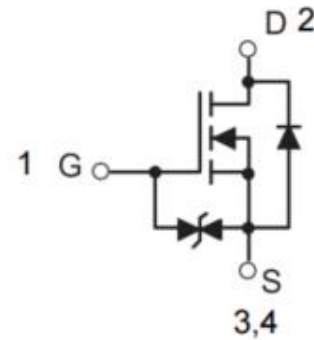
MARKING:



DFN1*1-4L



Schematic diagram



ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	$T_a=25^\circ\text{C}$	0.41
		$T_a=85^\circ\text{C}$	0.30
Pulsed Drain Current	I_{DM}	1.2	A
Power Dissipation	P_D	0.2	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

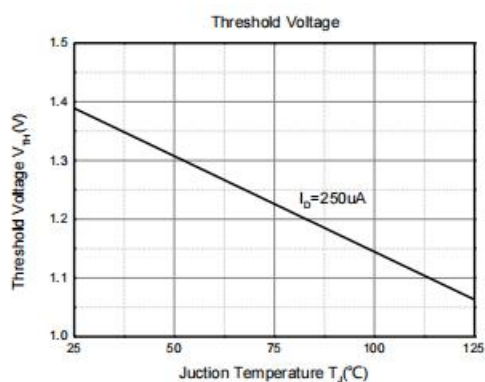
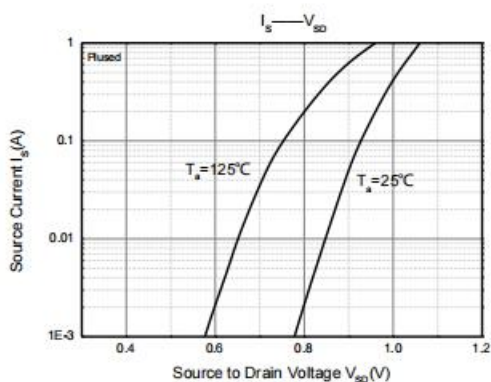
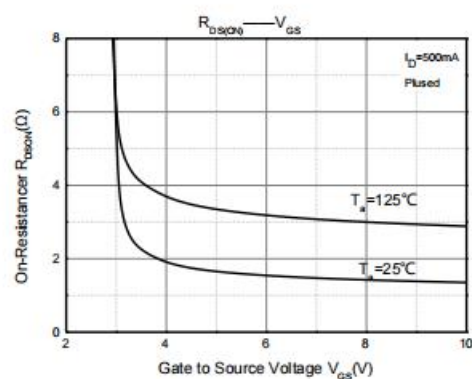
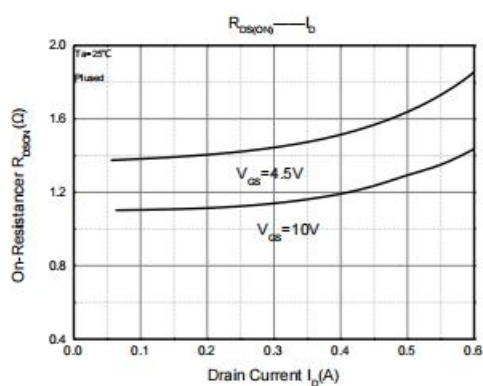
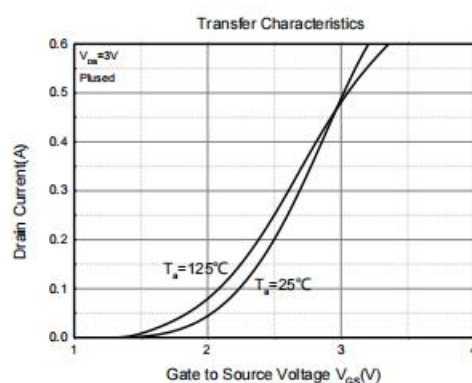
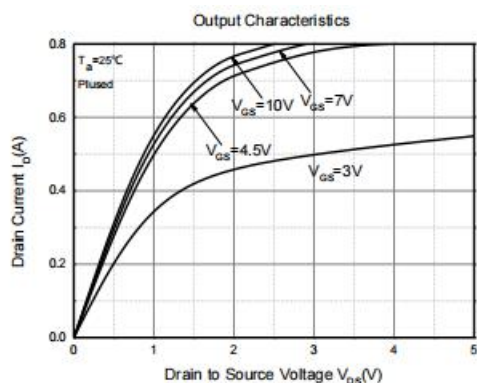
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
STATIC CHARACTERISTICS						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	60			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = 60V, V _{GS} = 0V			100	nA
Gate-body leakage current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±10	μA
		V _{GS} = ±5V, V _{DS} = 0V			±1	
Gate threshold voltage ⁽¹⁾	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1.0	1.4	2.5	V
Drain-source on-resistance ⁽¹⁾	R _{DS(on)}	V _{GS} = 10V, I _D = 40mA		1.2	1.5	Ω
		V _{GS} = 4.5V, I _D = 35mA		1.3	1.8	
Forward tranconductance ⁽¹⁾	g _{FS}	V _{DS} = 10V, I _D = 40mA	100			mS
Diode Forward Voltage	V _{SD}	I _S = 300mA, V _{DS} = 0V		0.84	1.1	V
DYNAMIC CHARACTERISTICS⁽²⁾						
Input Capacitance	C _{iss}	V _{DS} = 40V, V _{GS} = 0V, f = 1MHz		41	80	pF
Output Capacitance	C _{oss}			3.6	7	
Reverse Transfer Capacitance	C _{rss}			2.9	5.6	
Gate resistance	R _g	V _{DS} = 0V, V _{GS} = 0V, f = 1MHz		81	200	Ω
Total Gate Charge	Q _g	V _{GS} = 4.5V	V _{DS} = 50V, I _D = 1A	0.72	1.5	nC
Gate-Source Charge	Q _{gs}	V _{GS} = 10V		1.41	2.8	
Gate-Drain Charge	Q _{gd}			0.24	0.4	
				0.24	0.5	
Turn-on delay time	t _{d(on)}	V _{GS} = 10V, V _{DS} = 50V, I _D = 1A, R _G = 6Ω		3.98	10	ns
Turn-on rise time	t _r			4.95	10	
Turn-off delay time	t _{d(off)}			18.52	40	
Turn-off fall time	t _f			11.94	25	

Notes:

1. Pulse Test ; Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
2. These parameters have no way to verify.

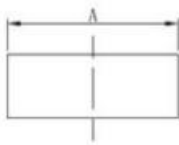
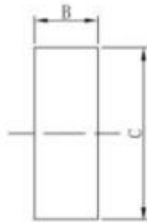
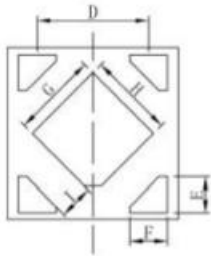
Typical Electrical and Thermal Characteristics



DFN1*1-4L Package Information

DFN1 × 1-4L (0.49 × 0.49)

Unit:mm



Dimensions In Millimeterer			
Symbol	MIN	TYP	MAX
A	0.950	1.000	1.050
B	0.320	0.370	0.420
C	0.950	1.000	1.050
D	0.600	0.650	0.700
E	0.175	0.225	0.275
F	0.170	0.220	0.270
G	0.440	0.490	0.540
H	0.440	0.490	0.540
I	0.140	0.190	0.240