

### Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	$I_D$
60V	1.2Ω@10V	0.34A
	1.3Ω@4.5V	

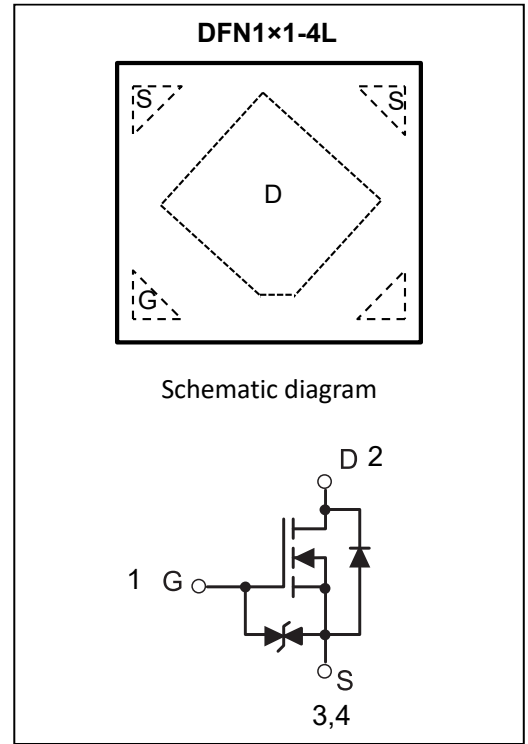
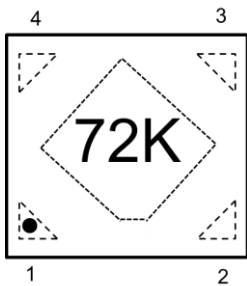
### Feature

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

### Application

- Load Switch
- Portable Applications
- Power Management Functions

### MARKING:



### 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	$I_D$	$T_a=25^{\circ}\text{C}$	0.34
		$T_a=85^{\circ}\text{C}$	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	$^{\circ}\text{C}$

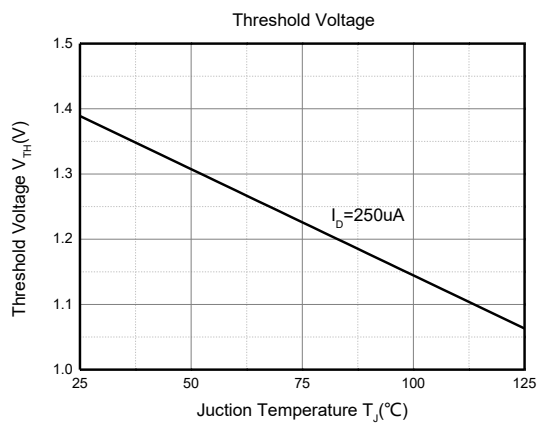
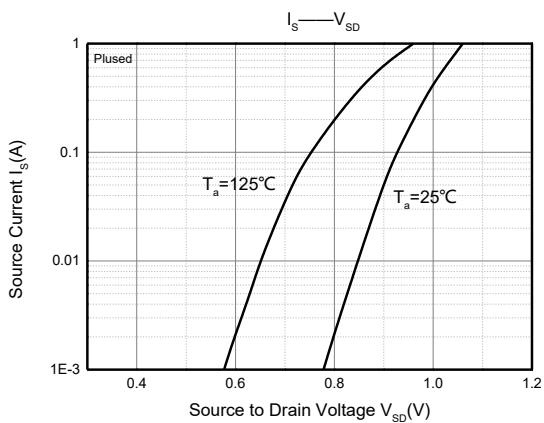
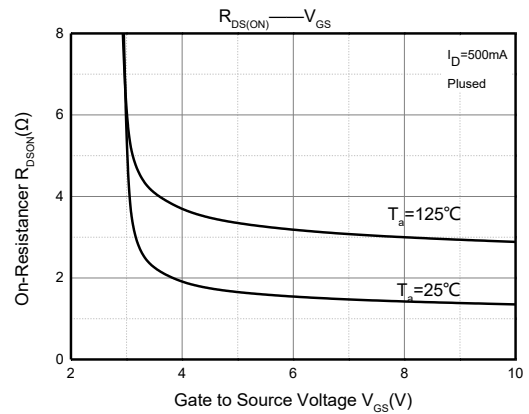
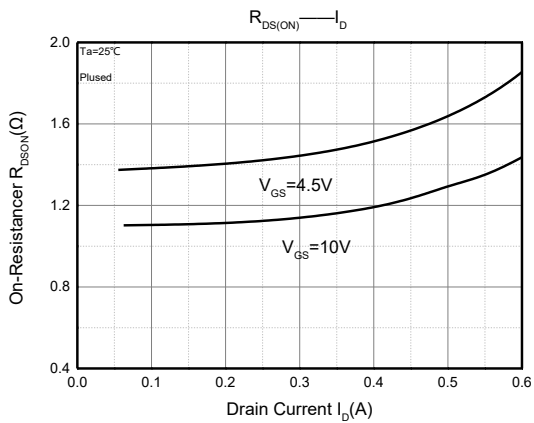
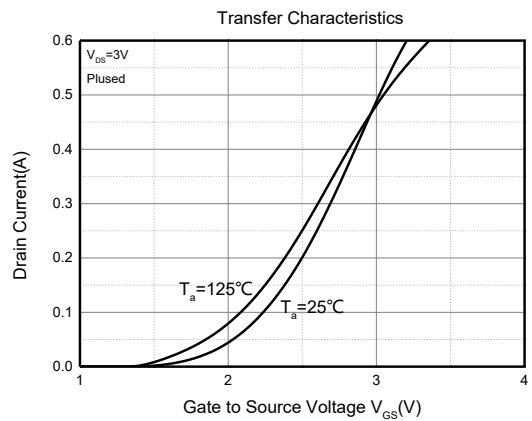
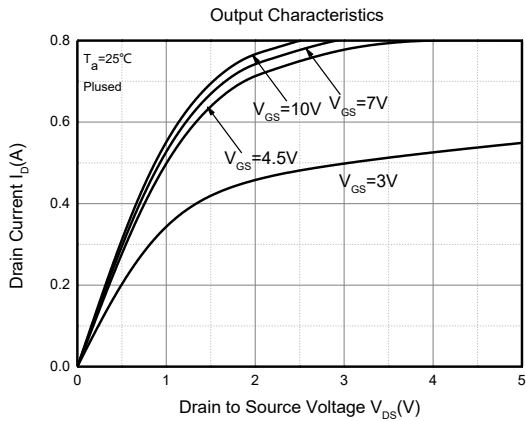
**MOSFET ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250μA	60			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = 60V, V <sub>GS</sub> = 0V			100	nA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V			±10	μA
		V <sub>GS</sub> = ±5V, V <sub>DS</sub> = 0V			±1	
Gate threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA	1.0	1.5	2.5	V
Drain-source on-resistance <sup>a</sup>	R <sub>DS(on)</sub>	V <sub>GS</sub> = 10V, I <sub>D</sub> = 40mA		1.2	2.5	Ω
		V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 35mA		1.3	3.0	
Forward tranconductance <sup>a</sup>	g <sub>fs</sub>	V <sub>DS</sub> = 5V, I <sub>D</sub> = 40mA	100			mS
Diode forward voltage	V <sub>SD</sub>	V <sub>DS</sub> = 0V, I <sub>S</sub> = 300mA		0.84	1.1	V
<b>Dynamic characteristics</b>						
Input Capacitance <sup>b</sup>	C <sub>iss</sub>	V <sub>DS</sub> = 40V, V <sub>GS</sub> = 0V, f = 1MHz		41	80	pF
Output Capacitance <sup>b</sup>	C <sub>oss</sub>			3.6	7	
Reverse Transfer Capacitance <sup>b</sup>	C <sub>rss</sub>			2.9	5.6	
Gate resistance	R <sub>g</sub>	V <sub>DS</sub> = 0V, V <sub>GS</sub> = 0V, f = 1MHz		81	200	Ω
Total Gate Charge	Q <sub>g</sub>	V <sub>GS</sub> = 4.5V	V <sub>DS</sub> = 50V, I <sub>D</sub> = 1A	0.72	1.5	nC
		V <sub>GS</sub> = 10V		1.41	2.8	
Gate-Source Charge	Q <sub>gs</sub>			0.24	0.4	
Gate-Drain Charge	Q <sub>gd</sub>			0.24	0.5	
Turn-on delay time <sup>b</sup>	t <sub>d(on)</sub>	V <sub>DS</sub> = 50V, I <sub>D</sub> = 1A, V <sub>GS</sub> = 10V, R <sub>G</sub> = 6Ω		3.98	10	ns
Turn-on rise time <sup>b</sup>	t <sub>r</sub>			4.95	10	
Turn-off delay time <sup>b</sup>	t <sub>d(off)</sub>			18.52	40	
Turn-off fall time <sup>b</sup>	t <sub>f</sub>			11.94	25	

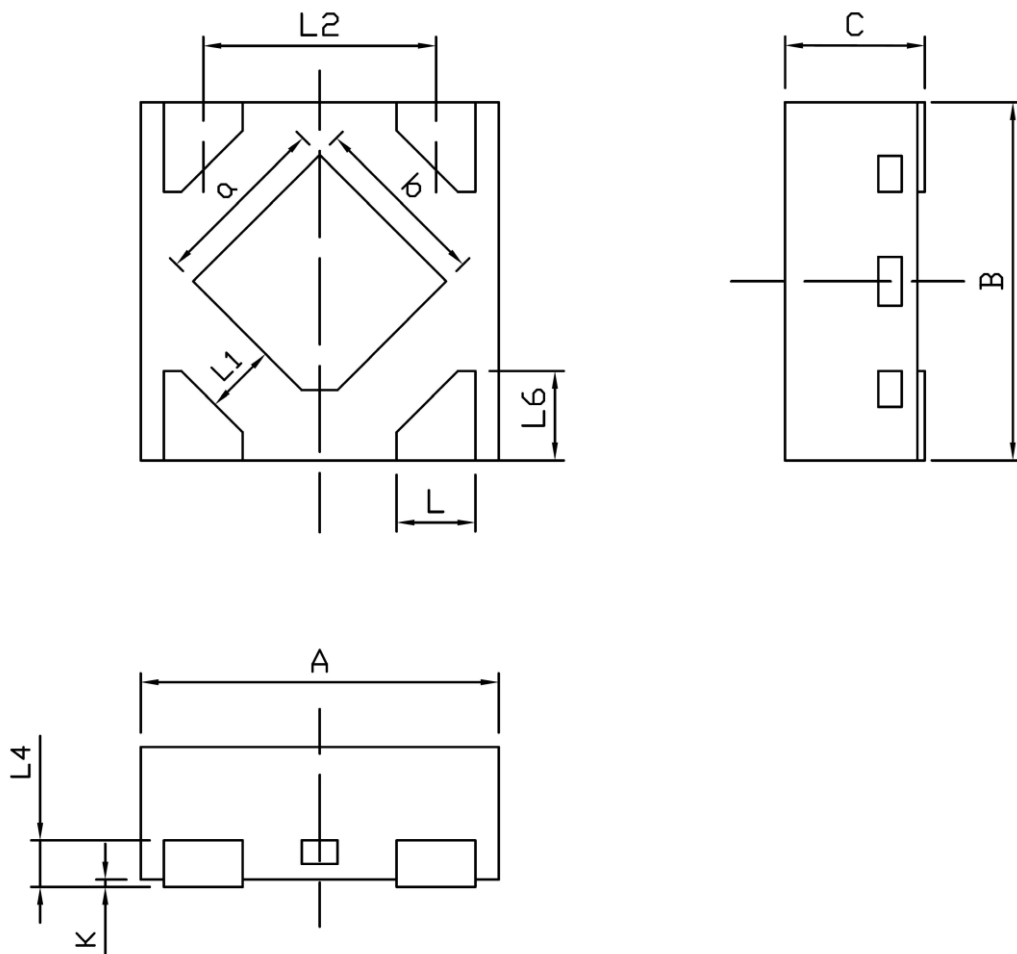
**Notes:**

- a. Pulse Test : Pulse width ≤ 300μs, duty cycle ≤ 2%.  
b. These parameters have no way to verify.

## Typical Electrical and Thermal Characteristics



## DFN1×1-4L Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.950	1.050	0.037	0.041
B	0.950	1.050	0.037	0.041
C	0.340	0.400	0.013	0.016
L	0.150	0.250	0.006	0.010
L1	0.150MIN		0.006MIN	
L2	0.650BSC		0.026BSC	
L4	0.127REF		0.005REF	
L6	0.200	0.300	0.008	0.012
K	0.000	0.050	0.000	0.002
a	0.380	0.580	0.015	0.023
b	0.380	0.580	0.015	0.023