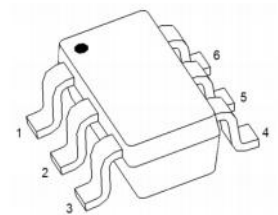
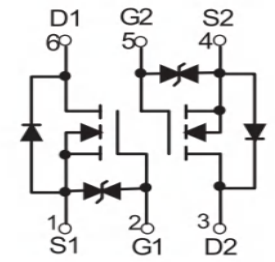




2N7002K Plastic-Encapsulate MOSFETS

N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
60 V	5Ω @10V	340mA
	5.3Ω @4.5V	



FEATURE

- ⌘ High density cell design for Low $R_{DS(on)}$
- ⌘ Voltage controlled small signal switch
- ⌘ Rugged and reliable
- ⌘ High saturation current capability
- ⌘ ESD protected

APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter

MARKING : 72K

SOT23-6L

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

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage	60	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current	340	mA
I_{DM}	Pulsed Drain Current(note1)	800	mA
P_D	Power Dissipation	0.2	W
T_j	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55~+150	°C
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	625	°C/W



T_a=25 °C unless otherwise specified

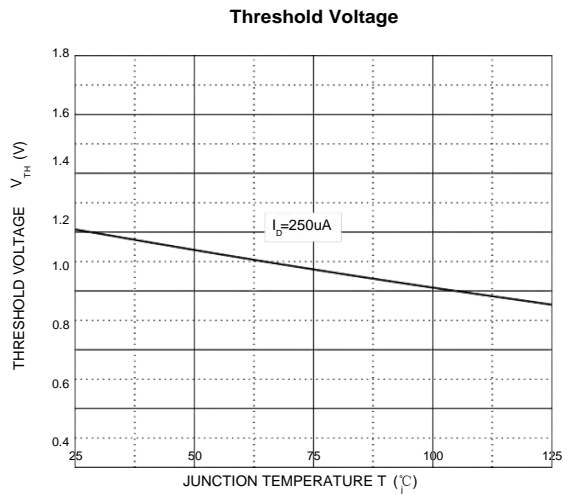
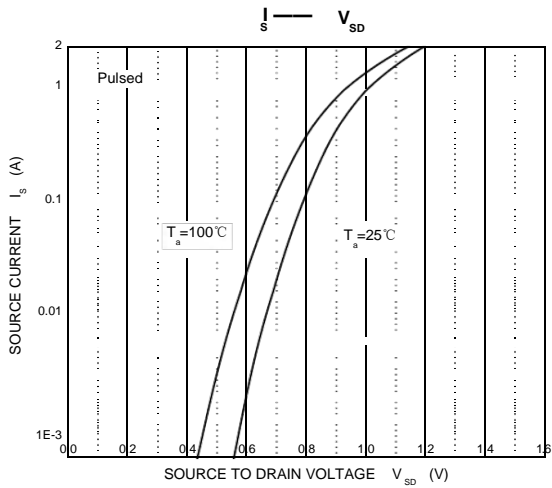
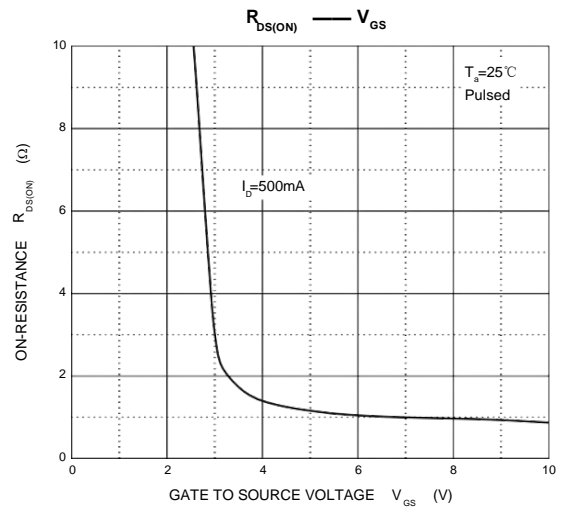
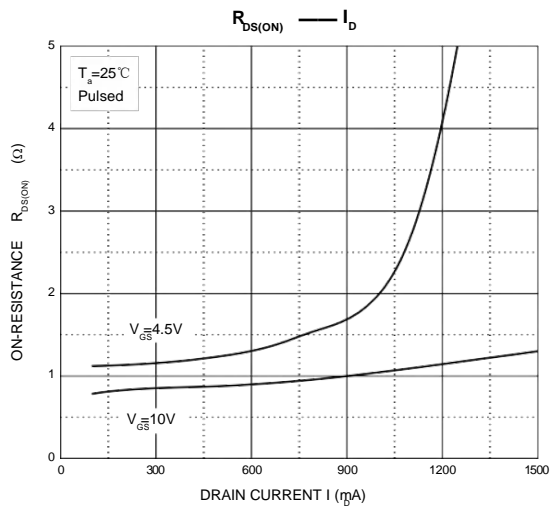
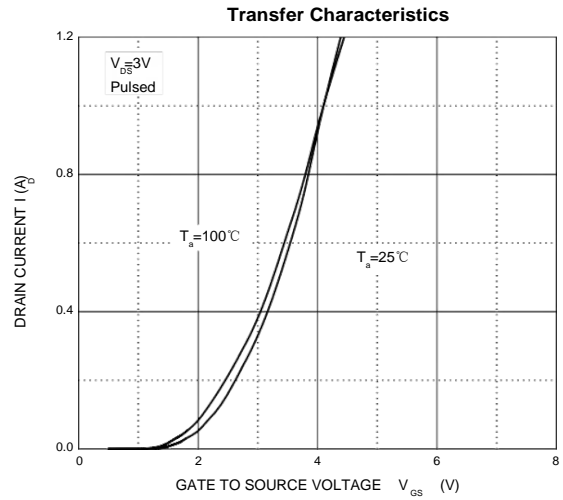
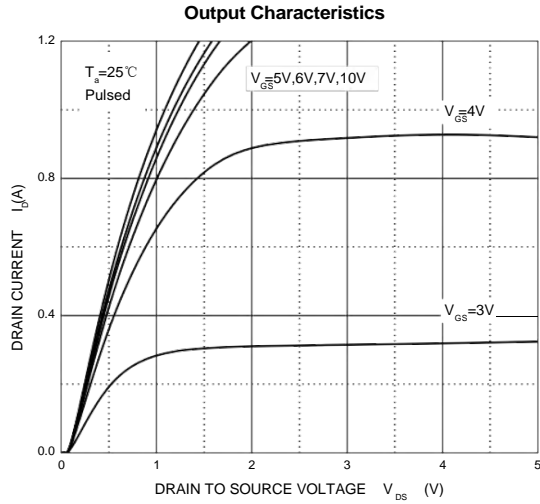
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	60			V
GateThreshold Voltage (note 2)	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 1mA	1	1.3	2.5	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 48V, V _{GS} = 0V			1	μA
Gate-Source Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±10	μA
Drain-Source On-Resistance (note 2)	R _{DS(on)}	V _{GS} = 4.5V, I _D = 200mA		2.3	5.3	R
		V _{GS} = 10V, I _D = 500mA		1.5	5	R
DYNAMIC PARAMETERS (note 3)						
Input Capacitance	C _{iss}	V _{DS} = 10V, V _{GS} = 0V, f = 1MHz			40	pF
Output Capacitance	C _{oss}				30	pF
Reverse Transfer Capacitance	C _{rss}				10	pF
SWITCHING PARAMETERS (note 3)						
Turn-on Delay Time	t _{d(on)}	V _{GS} = 10V, V _{DD} = 50V, R _G = 50Ω			10	ns
Turn-off Delay Time	t _{d(off)}		R _{GS} = 50Ω, R _L = 250Ω			15
Reverse Recovery Time	t _{rr}	V _{GS} = 0V, I _S = 300mA, V _R = 25V, dI _S /dt = -100A/μs		30		ns
Recovered Charge	Q _r	V _{GS} = 0V, I _S = 300mA, V _R = 25V dI _S /dt = -100A/μs		30		nC
DRAIN-SOURCE DIODE						
Diode Forward Voltage(note 2)	V _{SD}	I _S = 300mA, V _{GS} = 0V			1.5	V
Continuous Diode Forward Current	I _S				0.2	A
Pulsed Diode Forward Current(note1)	I _{SM}				0.53	A

Notes :

1. Repetitive rating - Pulse width limited by junction temperature.
2. Pulse Test : Pulse width ≤ 300μs, duty cycle ≤ 2%.
3. Guaranteed by design, not subject to production testing.

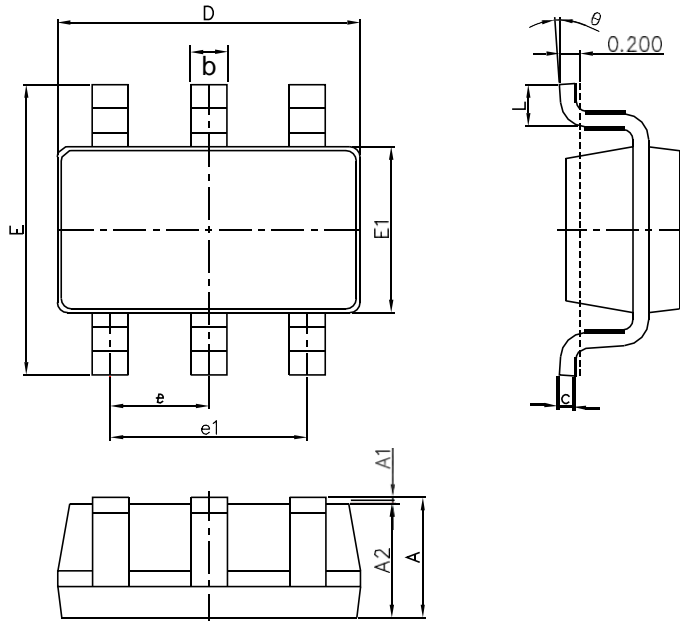


Typical Characteristics



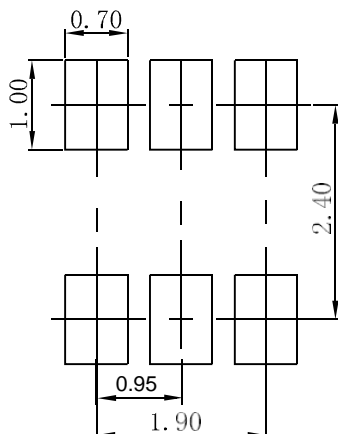


SOT-23-6L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

SOT-23-6L Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.