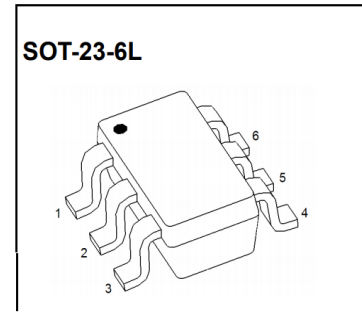


Plastic-Encapsulate MOSFETS

N-Channel MOSFET

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



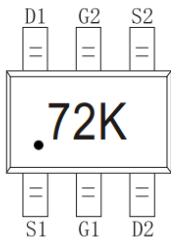
FEATURE

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

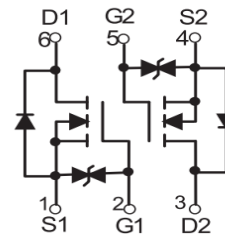
APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter

MARKING



Equivalent Circuit



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	°R
T_{stg}	Storage Temperature	-55~+150	°R
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	625	°R/W

MOSFET ELECTRICAL CHARACTERISTICS

$T_a=25\text{ C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	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}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 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	$t_{d(on)}$	$V_{GS} = 10V, V_{DD} = 50V, R_G = 50\Omega$ $R_{GS} = 50\Omega, R_L = 250\Omega$			10	ns
Turn-off Delay Time	$t_{d(off)}$				15	ns
Reverse Recovery Time	t_{rr}	$V_{GS} = 0V, I_S = 300mA, V_R = 25V,$ $dI_S/dt = -100A/\mu s$		30		ns
Recovered Charge	Q_r	$V_{GS} = 0V, I_S = 300mA, V_R = 25V,$ $dI_S/dt = -100A/\mu s$		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 (note 1)	I_{SM}				0.53	A

Notes :

1. Repetitive rating – Pulse width limited by junction temperature.
2. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
3. Guaranteed by design, not subject to production testing.



CHINA BASE
INTERNATIONAL

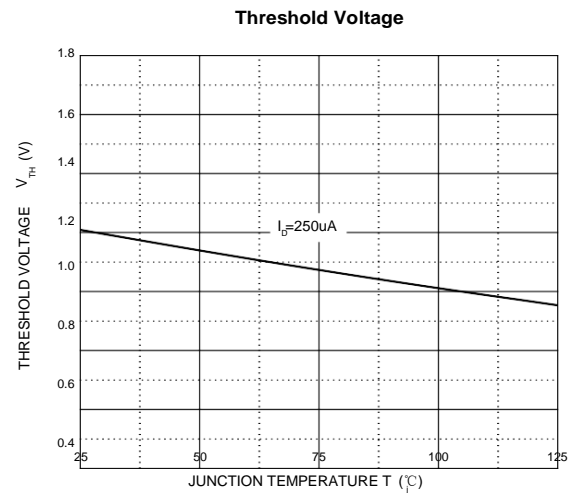
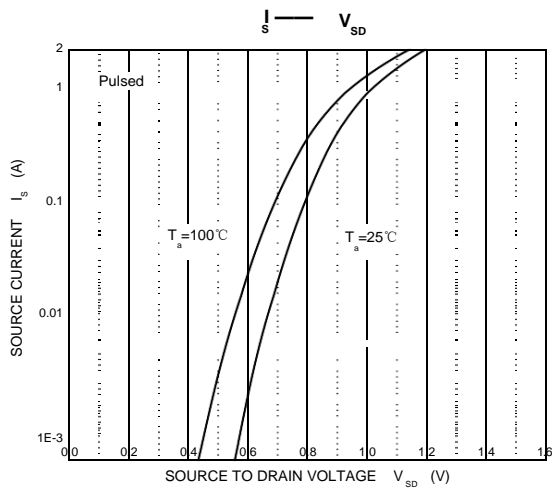
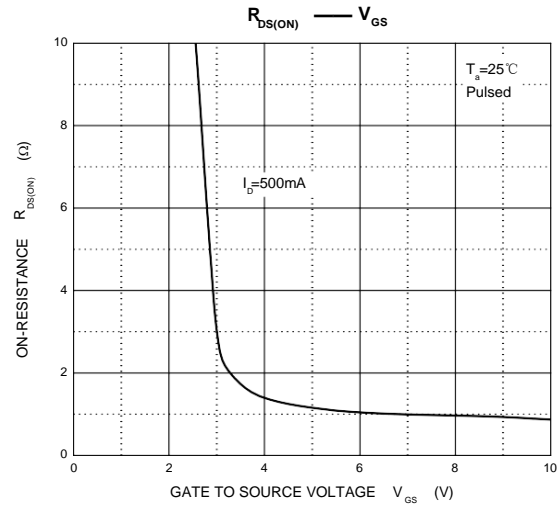
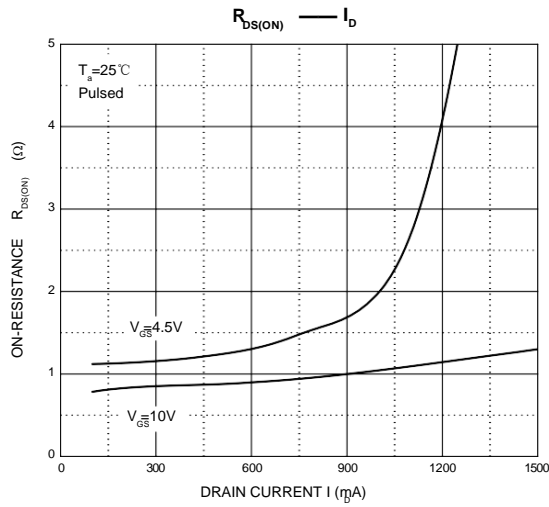
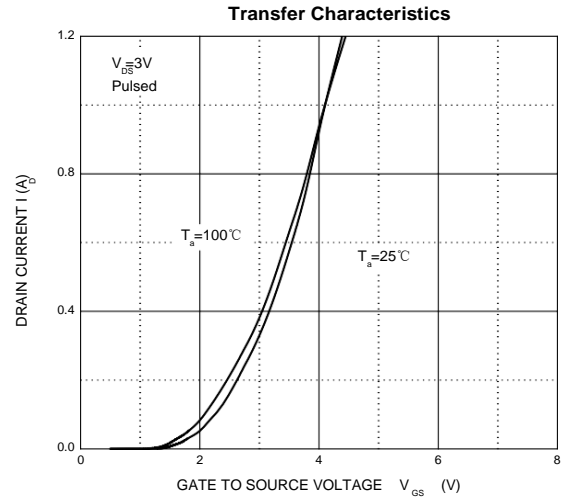
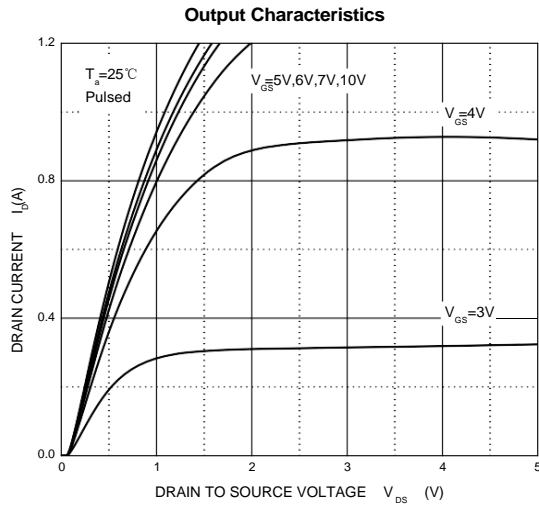
SOT-23-6L

2N7002K



www.china-base.com.hk

Typical Characteristics





CHINA BASE
INTERNATIONAL

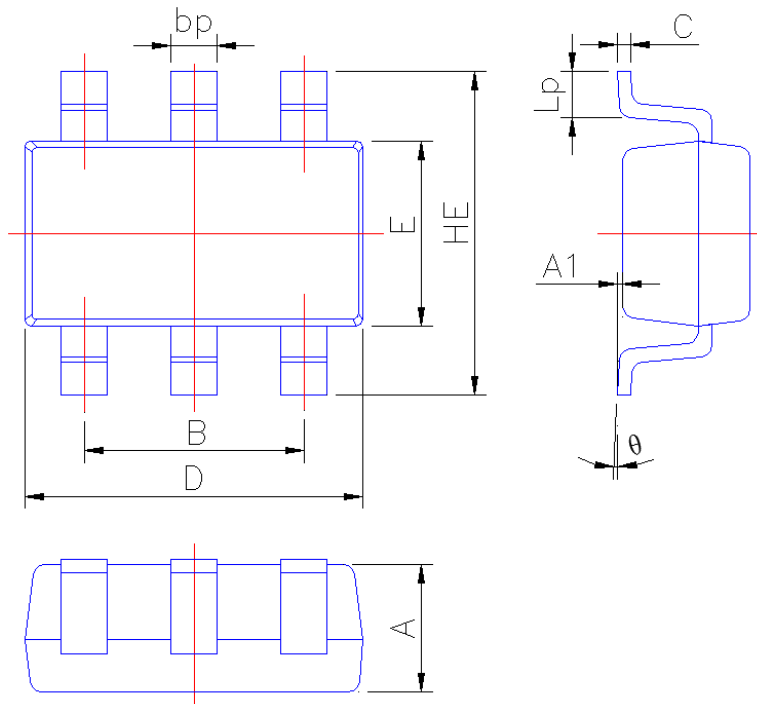
SOT-23-6L

2N7002K



www.china-base.com.hk

SOT-23-6L PACKAGE OUTLINE



Symbol	Dimension in Millimeters	
	Min	Max
A	1.05	1.20
A1	0.010	0.100
B	1.80	2.00
bp	0.35	0.50
C	0.12	0.20
D	2.80	3.00
E	1.50	1.70
HE	2.60	3.00
Lp	0.25	0.55
θ	2°	6°