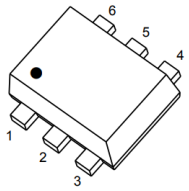
Plastic-Encapsulate MOSFETS

N-Channel MOSFET

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

SOT-563



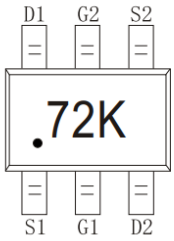
FEATURE

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

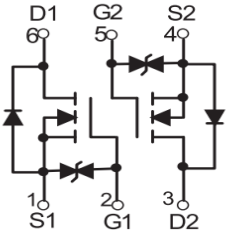
APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter

MARKING



Equivalent Circuit



MOSFET MAXIMUM RATINGS (T_a=25Я 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
$R_{ŞJA}$	Thermal Resistance from Junction to Ambient	625	Я/W

MOSFET ELECTRICAL CHARACTERISTICS

T_a=25 C unless otherwise specified

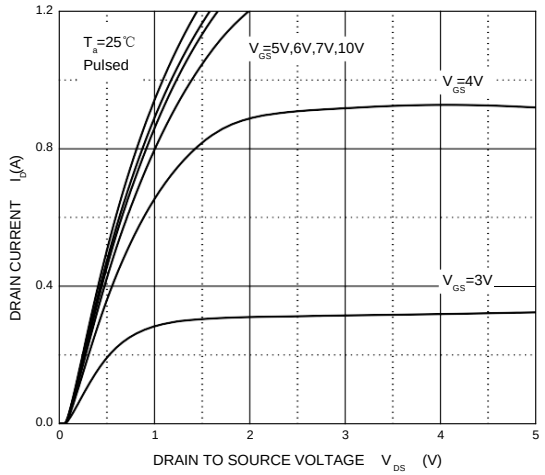
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	60			V
GateThreshold Voltage (note 2)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =1mA	1	1.3	2.5	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =48V,V_{GS} = 0V			1	μA
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=50ὸ			10	ns
Turn-off Delay Time	$t_{d(off)}$	R_{GS}=50ὸ, R_L=250ὸ			15	ns
Reverse Recovery Time	t_{rr}	V_{GS}=0V,I_S=300mA,V_R=25V, dIs/dt=-100A/us		30		ns
Recovered Charge	Qr	V_{GS}=0V,I_S=300mA,V_R=25V dIs/dt=-100A/us		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 :

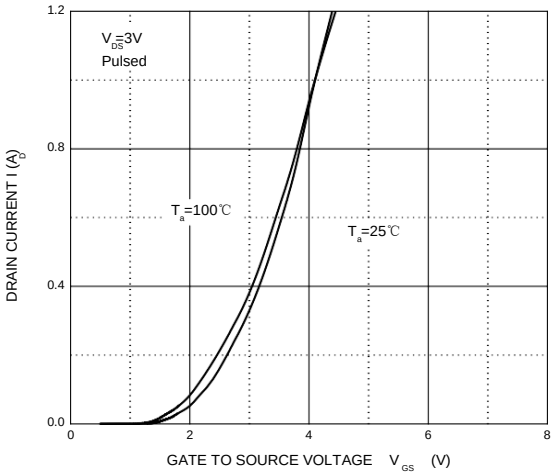
1. Repetitive rating - Pluse width limited by junction temperature.
2. Pulse Test : Pulse width□300μs, duty cycle” 2%.
3. Guaranteed by design, not subject to production testing.

Typical Characteristics

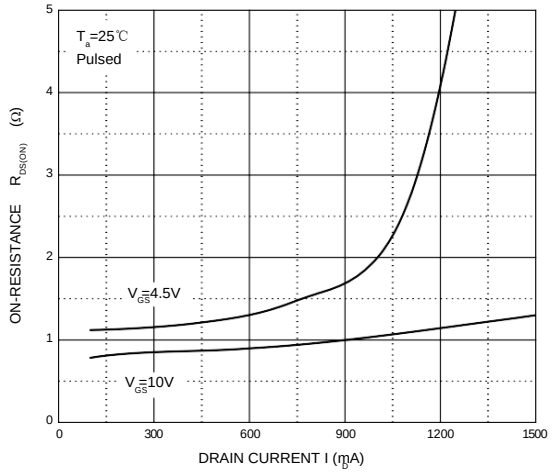
Output Characteristics



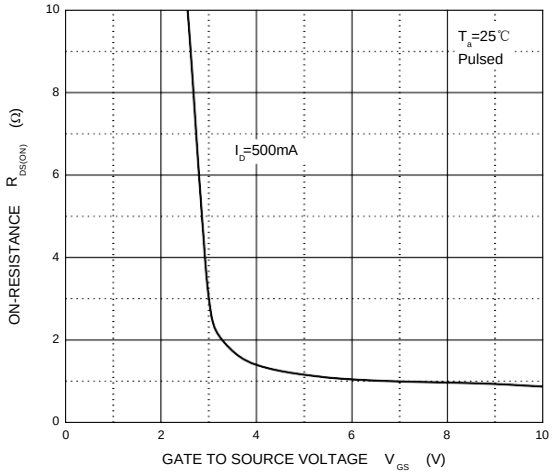
Transfer Characteristics



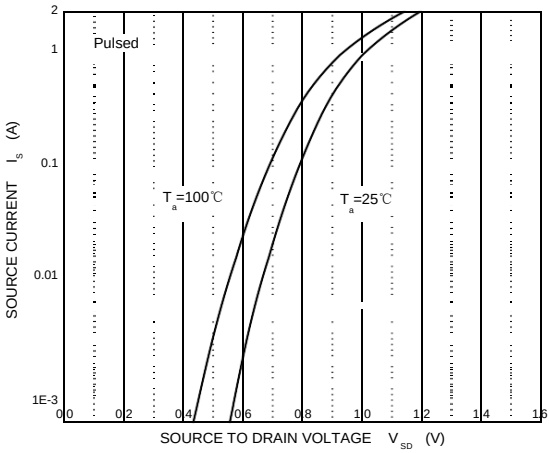
$R_{DS(ON)}$ — I_D



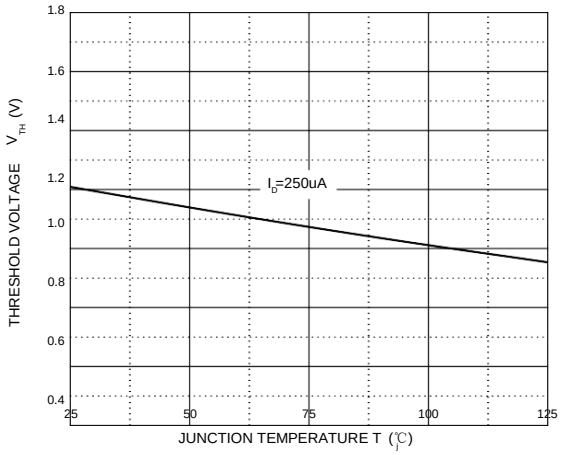
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}

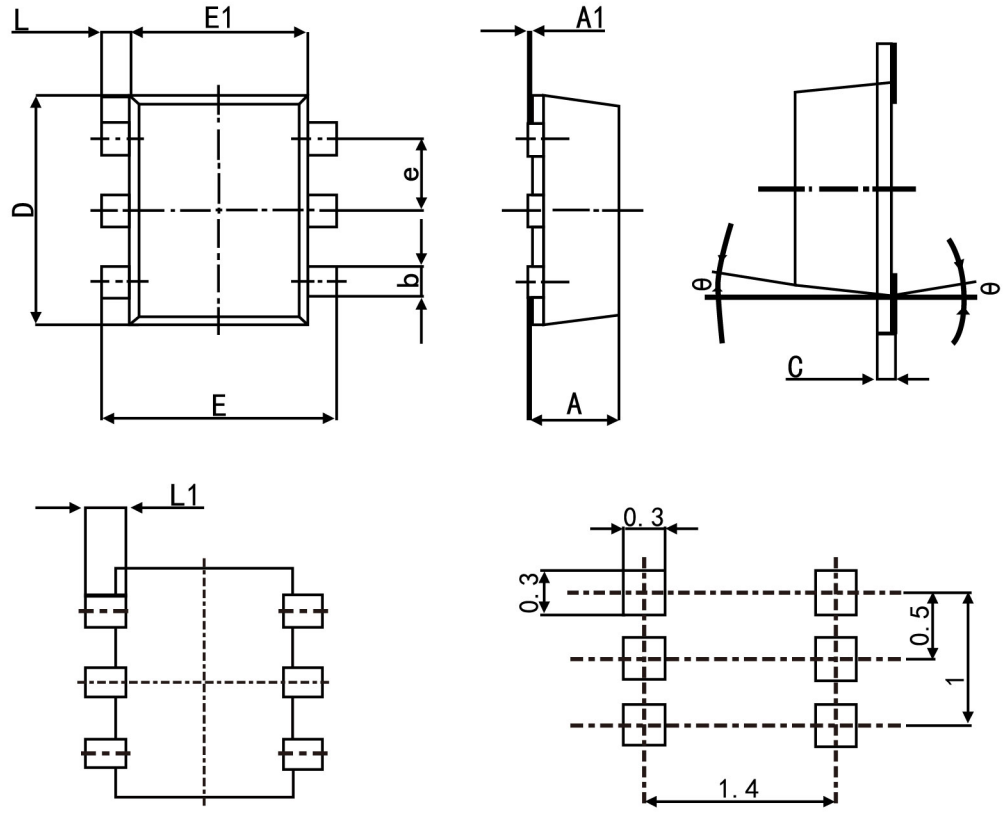


Threshold Voltage



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-563**



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.525	0.600
Al	0.000	0.050
e	0.450	0.550
c	0.090	0.160
D	1.500	1.700
b	0.170	0.270
El	1.100	1.300
E	1.500	1.700
L	0.100	0.300
LI	0.200	0.400
θ	7 °REF.	