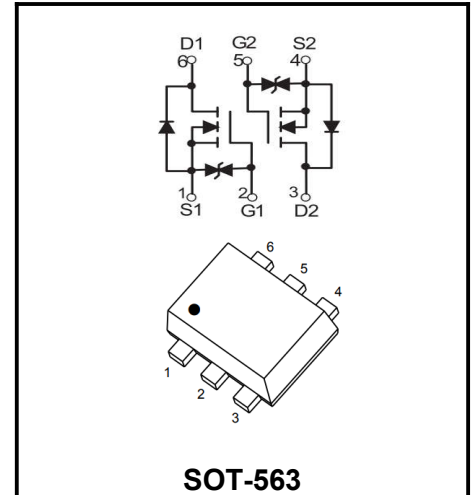


Plastic-Encapsulate MOSFETS

N-Channel MOSFET

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



Features

- ⌘ 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 Code

Marking Code	
2N7002KV	72K

Mosfet maximum ratings (Ta=25°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

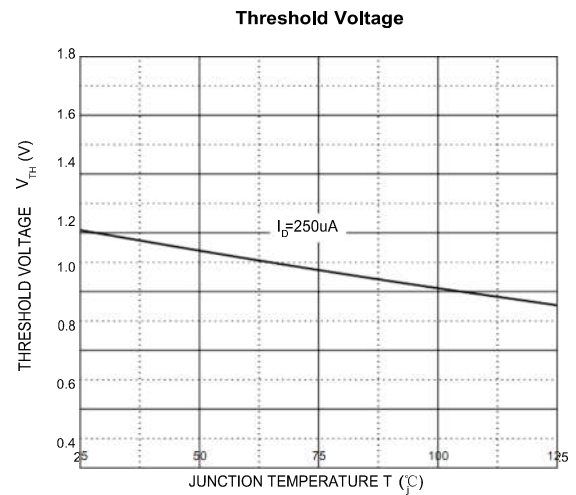
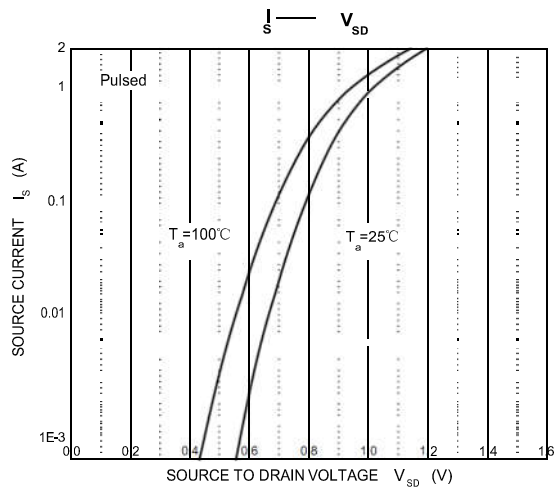
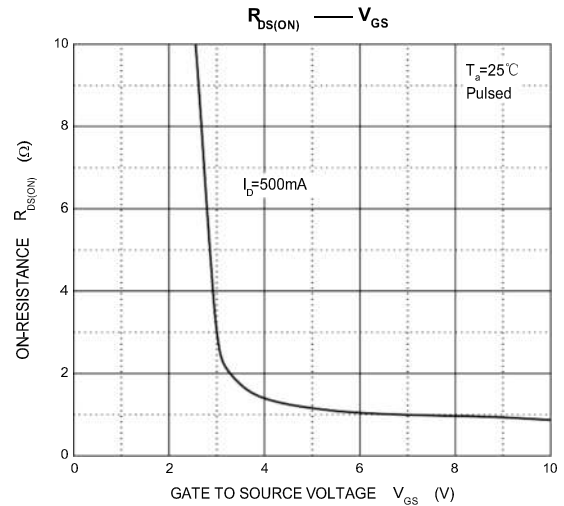
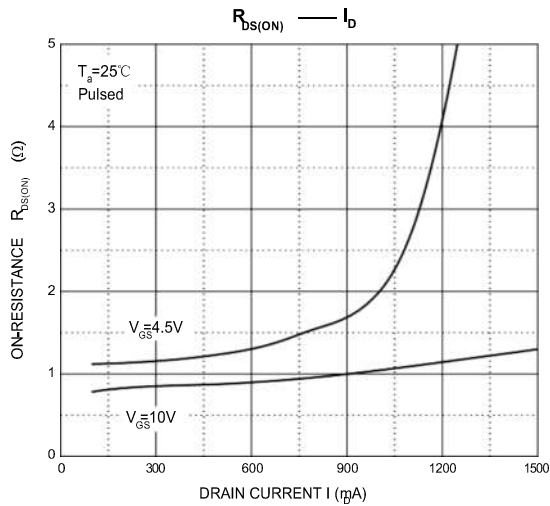
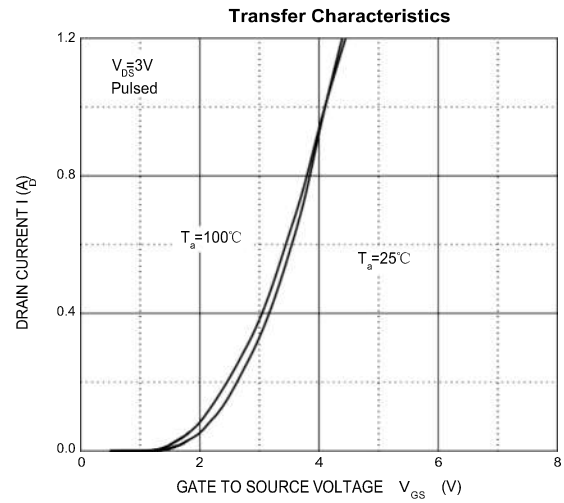
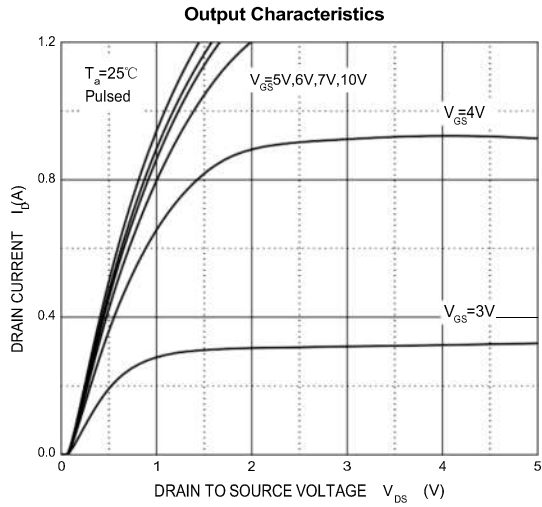
Mosfet Electrical Characteristics(TA = 25 °C unless otherwise specified)

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 =50ö R _{GS} =50ö, R _L =250ö			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/us		30		ns
Recovered Charge	Q _r	V _{GS} =0V, I _S =300mA, V _R =25V dI _S /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 $\leq 300\mu s$, duty cycle" 2%.
3. Guaranteed by design, not subject to production testing.

Typical Characteristics



Ordering information

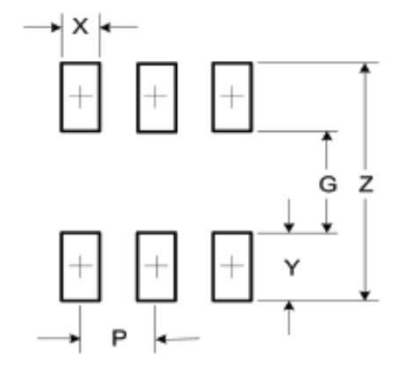
Package	Packing Description	Packing Quantity
SOT-563	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

Package Dimensions

SOT-563

Dim.	Millimeter(mm)		Inches	
	Min.	Max.	Min.	Max.
A	0.525	0.600	0.021	0.024
A1	-	0.050	-	0.002
e	0.450	0.550	0.018	0.022
c	0.090	0.160	0.004	0.006
D	1.500	1.700	0.059	0.067
b	0.170	0.270	0.007	0.011
E1	1.100	1.300	0.043	0.051
E	1.500	1.700	0.059	0.067
L	0.100	0.300	0.004	0.012
θ	7°		7°	

The recommended mounting pad size



Dim.	Millimeter(mm)
	TYP
Z	1.91
G	0.89
P	TYP0.51
X	0.30
Y	0.51

Disclaimer

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