



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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2N7002W

Features

- Low ON-Resistance
- Low Input Capacitance
- Low Gate Threshold Voltage
- Fast Switching Speed
- Low Input/Output Leakage
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Mechanical Data

- Halogen free available upon request by adding suffix "-HF"
- Case: SOT-323, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Marking: K72

Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance; 625K/W Junction To Ambient

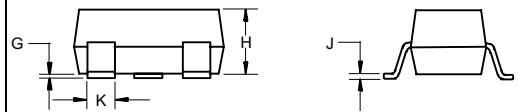
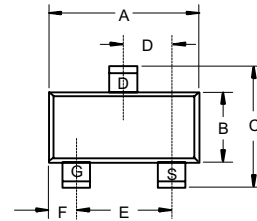
Parameter	Symbol	Value	Unit
Drain-Source-Voltage	V_{DSS}	60	V
Drain-Gate Voltage $R_{GS} \leq 1.0M\Omega$	V_{DGR}	60	V
Gate-Source-Voltage Continuous Pulsed	V_{GSS}	± 20 ± 40	V
Drain Current (Note 1) Continuous Continuous @ 100°C Pulsed	I_D	115 73 800	mA
Total Power Dissipation (Note 1) Derating above $T_A = 25^\circ C$	P_D	200 1.60	mW mW/°C

Note: 1. Valid provided that terminals are kept at specified ambient temperature.

2. Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$

N-Channel Enhancement Mode Field Effect Transistor

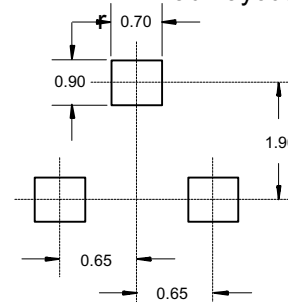
SOT-323



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.079	.087	2.00	2.20	
D	.026 Nominal		0.65Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.012	.016	.30	.40	

Suggested Solder Pad Layout



2N7002W

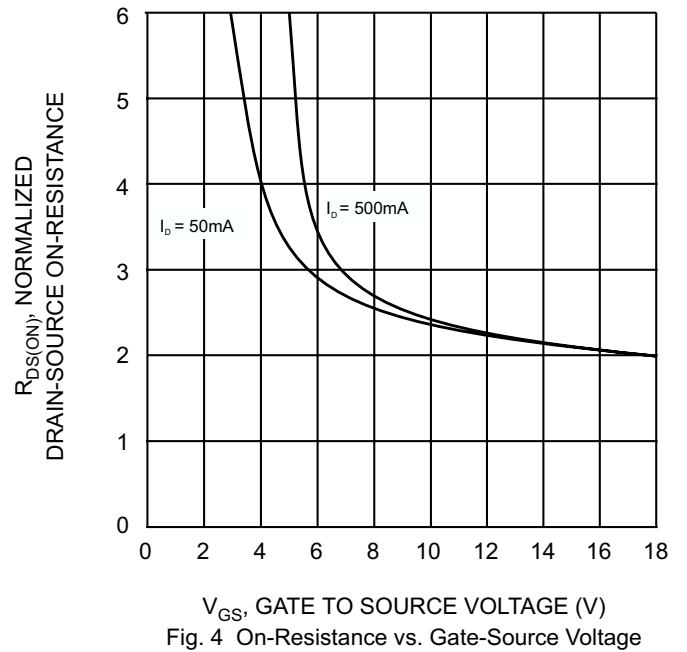
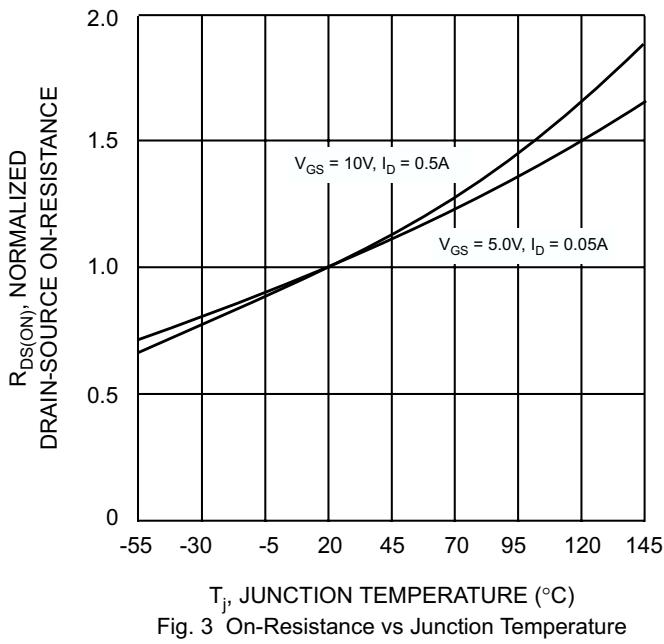
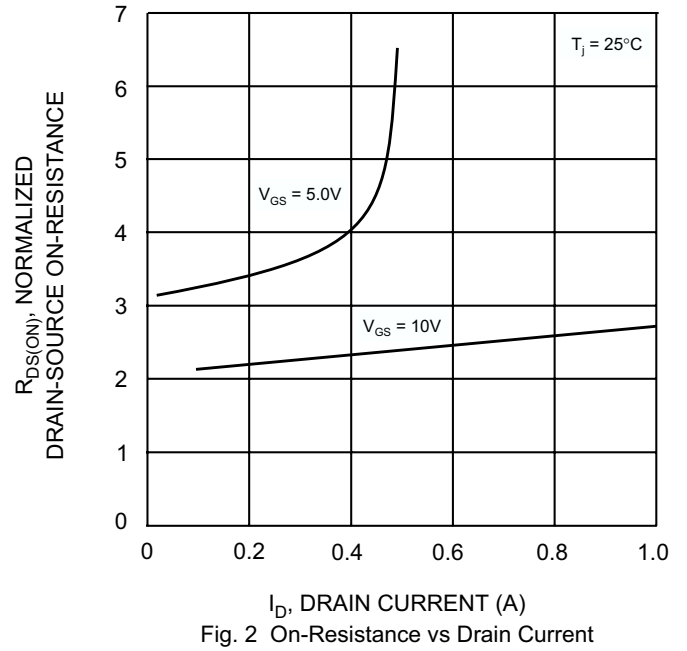
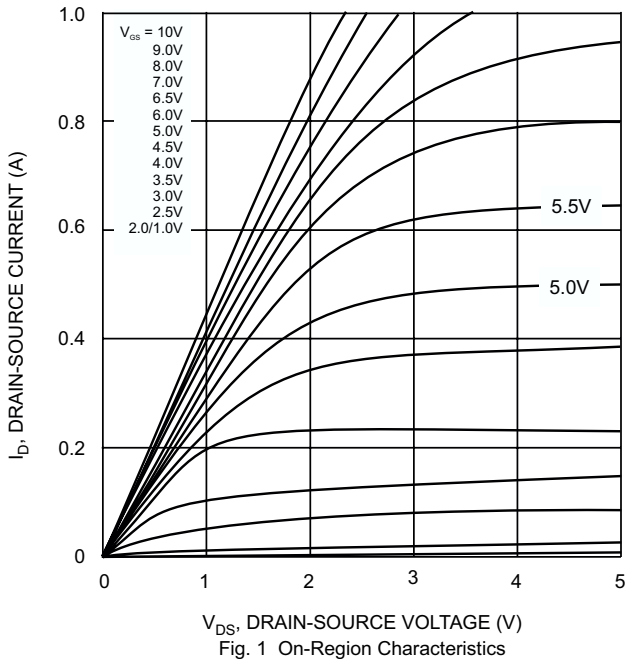
Electrical Characteristics @ T_A = 25 C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 2)						
Drain-Source Breakdown Voltage	BV _{DSS}	60	70		V	V _{GS} = 0V, I _D = 10 A
Zero Gate Voltage Drain Current	I _{DSS}			1.0 500	μA	V _{DS} = 60V, V _{GS} = 0V
Gate-Body Leakage	I _{GSS}			±10	nA	V _{GS} = ±20V, V _{DS} = 0V
ON CHARACTERISTICS (Note 2)						
Gate Threshold Voltage	V _{GS(th)}	1.0		2.0	V	V _{DS} = V _{GS} , I _D = -250 A
Static Drain-Source On-Resistance	R _{DS(ON)}		3.2 4.4	7.5 13.5	Ω	V _{GS} = 5.0V, I _D = 0.05A V _{GS} = 10V, I _D = 0.5A
On-State Drain Current	I _{D(ON)}	0.5	1.0		A	V _{GS} = 10V, V _{DS} = 7.5V
Forward Transconductance	g _{FS}	80			mS	V _{DS} = 10V, I _D = 0.2A
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{iss}		22	50	pF	V _{DS} = 25V, V _{GS} = 0V f = 1.0MHz
Output Capacitance	C _{oss}		11	25	pF	
Reverse Transfer Capacitance	C _{rss}		2.0	5.0	pF	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	t _{D(ON)}		7.0	20	ns	V _{DD} = 30V, I _D = 0.2A, R _L = 150 Ω, V _{GEN} = 10V, R _{GEN} = 25 Ω
Turn-Off Delay Time	t _{D(OFF)}		11	20	ns	

Note: 1. Valid provided that terminals are kept at specified ambient temperature.

2. Pulse width ≤ 300μs, duty cycle ≤ 2%.

2N7002W





TM

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Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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