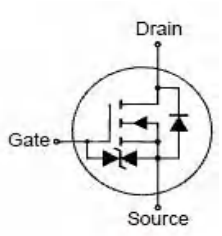
迈拓电子
MAITUO ELECTRONIC

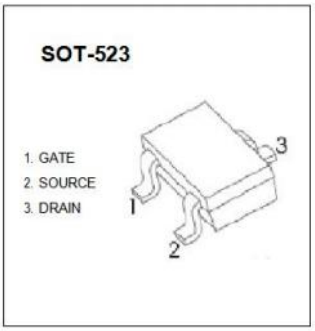
2N7002KT N-Channel Enhancement Mode Field Effect Transistor

Features

- Low on resistance $R_{DS(ON)}$
- Low gate threshold voltage
- Low input capacitance
- ESD protected up to 2KV

MARKING: 72K





Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	60	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current (Continuous)	I_D	300	mA
Drain Current (Pulse Width ≤ 10 μs)	I_{DM}	800	mA
Total Power Dissipation	P_{tot}	350	mW
Operating and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150	°C

Characteristics at T_a = 25 °C

Parameter	Symbol	Min.	Max.	Unit
Drain Source Breakdown Voltage at I_D = 10 μA	BV_{DSS}	60	-	V
Zero Gate Voltage Drain Current at V_{DS} = 60 V	I_{DSS}	-	1	μA
Gate Source Leakage Current at V_{GS} = ± 20 V	I_{GSS}	-	± 10	μA
Gate Threshold Voltage at V_{DS} = 10 V, I_D = 250 μA	$V_{GS(th)}$	1	2.5	V
Static Drain Source On-Resistance at V_{GS} = 10 V, I_D = 500 mA at V_{GS} = 4.5 V, I_D = 200 mA	$R_{DS(ON)}$	- -	3 4	Ω
Forward Transconductance at V_{DS} = 10 V, I_D = 200 mA	g_{fs}	80	-	mS
Input Capacitance at V_{DS} = 25 V, f = 1 MHz	C_{iss}	-	50	pF
Output Capacitance at V_{DS} = 25 V, f = 1 MHz	C_{oss}	-	25	pF
Reverse Transfer Capacitance at V_{DS} = 25 V, f = 1 MHz	C_{rss}	-	5	pF

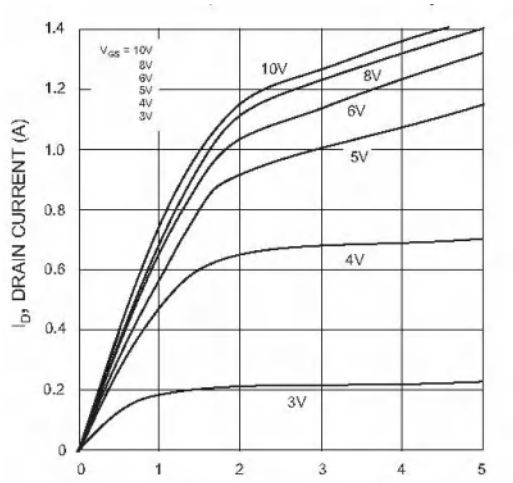


Fig. 1 Typical Output Characteristics

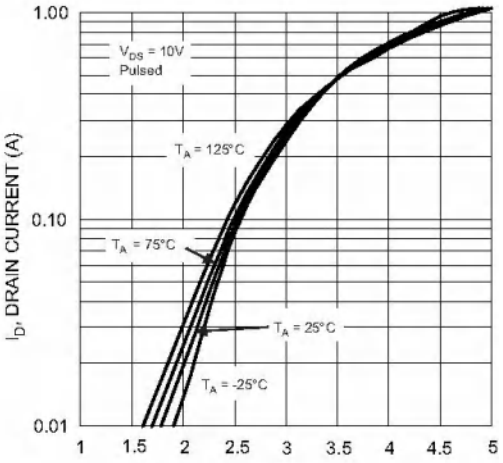


Fig. 2 Typical Transfer Characteristics

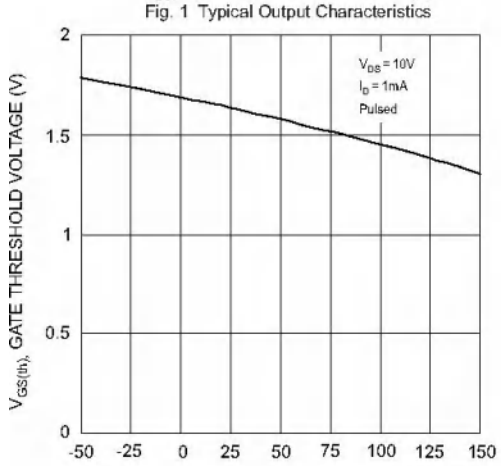


Fig. 3 Gate Threshold Voltage vs. Channel Temperature

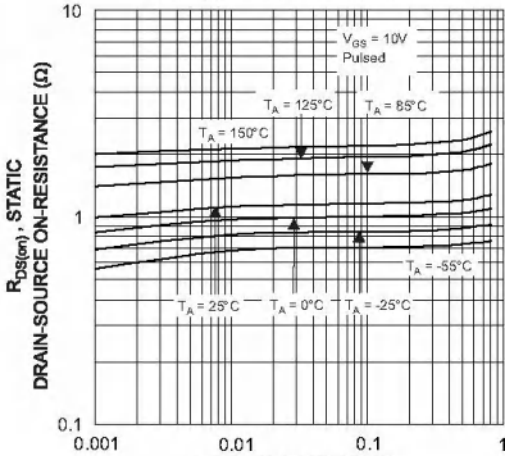


Fig. 4 Static Drain-Source On-Resistance Vs. Drain Current

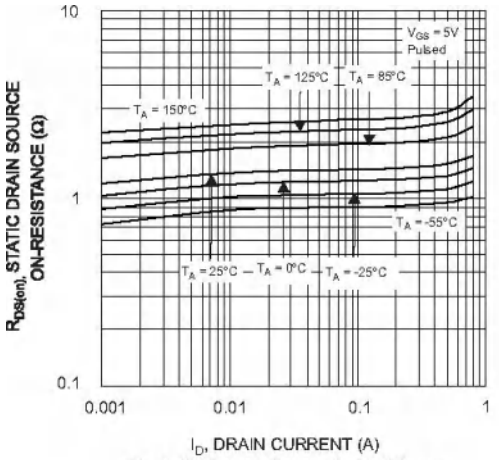


Fig. 5 Static Drain-Source On-Resistance vs. Drain Current

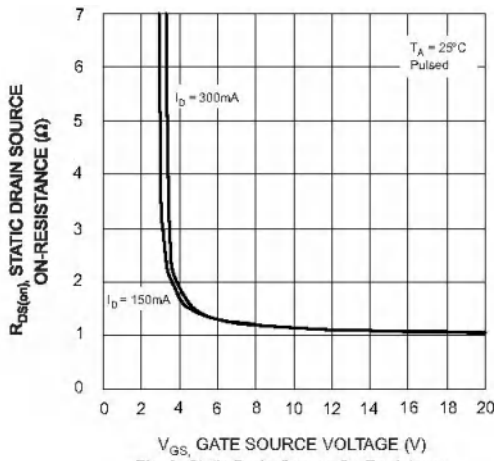


Fig. 6 Static Drain-Source On-Resistance vs. Gate-Source Voltage

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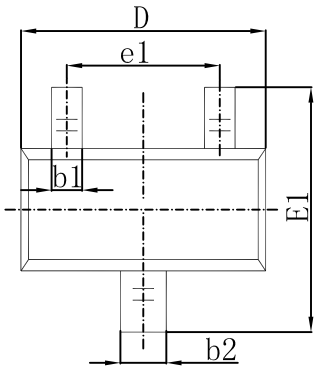
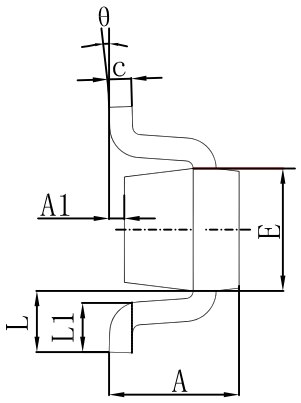
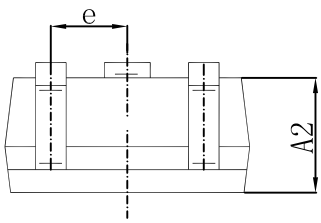
SOT-523 Package Outline Dimensions

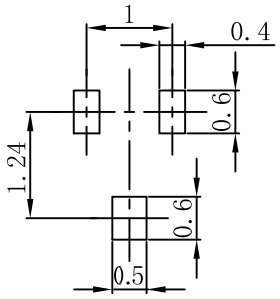






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-523 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.