Elektronische Bauelemente

2N7002T

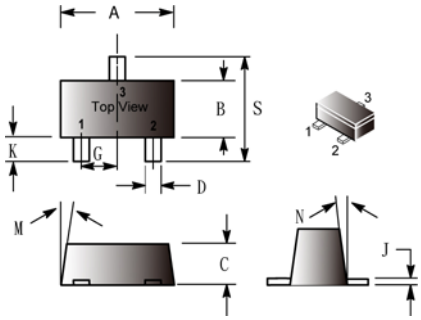
N-Channel Enhancement MOSFET

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

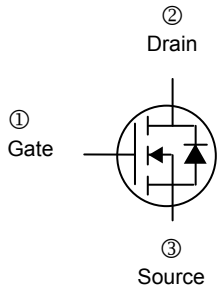
SOT-523

FEATURES

- High density cell design for low $R_{DS(ON)}$.
- Voltage controlled small signal switch.
- Rugged and reliable.
- High saturation current capability.



DEVICE MARKING：K72



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.50	1.70	K	0.30	0.50
B	0.75	0.95	M	---	10°
C	0.60	0.80	N	---	10°
D	0.23	0.33	S	1.50	1.70
G	0.50BSC				
J	0.10	0.20			

MAXIMUM RATINGS (T_A=25℃ unless otherwise specified)

PARAMETER	SYMBOL	RATING	UNIT
Drain-Source Voltage	V_{DS}	60	V
Drain Current	I_D	115	mA
Power Dissipation	P_D	150	mW
Operating Junction Temperature Range	T_J	150	°C
Operating Storage Temperature Range	T_{STG}	-55~150	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

CHARACTERISTICS	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	60	-	-	V	V_{GS} = 0V, I_D = 10μA
Gate Threshold Voltage	$V_{GS(th)}$	1	-	2.5	V	V_{DS}= V_{GS}, I_D= 250μA
Gate-Body Leakage	I_{GSS}	-	-	±80	nA	V_{DS}= 0V, V_{GS}= ±25V
Zero Gate Voltage Drain Current	I_{DSS}	-	-	80	nA	V_{DS} = 60V, V_{GS}= 0V
On-State Drain Current	$I_{D(ON)}$	500	-	-	mA	V_{GS} = 10V, V_{DS} = 7V
Drain-Source On Resistance	$R_{DS(ON)}$	1	-	7.5	Ω	V_{GS}= 10V, I_D = 500mA
		1	-	7.5		V_{GS}= 5V, I_D = 50mA
Forward transfer admittance	gfs	80	-	500	mS	V_{DS}= 10V, I_D = 200mA
Drain-Source On Voltage	$V_{DS(ON)}$	0.5	-	3.75	V	V_{GS} = 10V, I_D = 500mA
		0.05	-	0.375		V_{GS} = 5V, I_D = 50mA
Diode Forward Voltage	V_{SD}	0.55	-	1.2	V	I_S= 115mA, V_{GS}= 0V
Input Capacitance	C_{iss}	-	-	50	pF	V_{DS}= 25V, V_{GS}= 0V, f= 1MHz
Output Capacitance	C_{oss}	-	-	25		
Reverse Transfer Capacitance	C_{rss}	-	-	5		
SWITCHING TIME						
Turn-On Time	$T_{d(ON)}$	-	-	20	nS	V_{GEN}= 10V, V_{DD}= 25V, I_D= 500mA, R_G= 25Ω, R_L= 50Ω
Turn-Off Time	$T_{d(OFF)}$	-	-	40		

TYPICAL CHARACTERISTIC CURVE

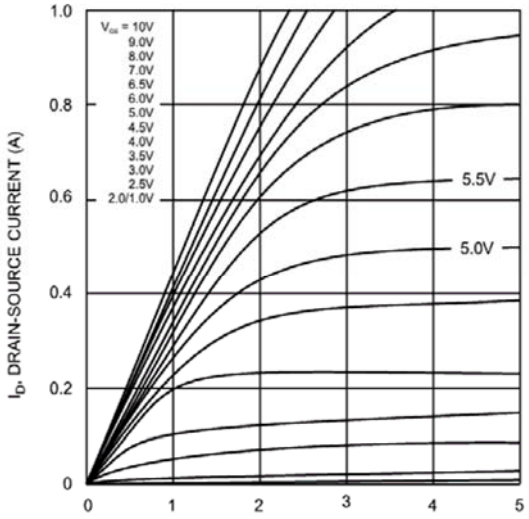


Fig. 1 On-Region Characteristics

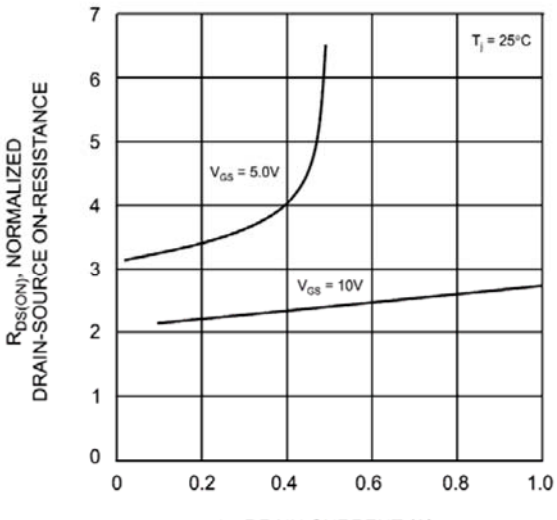


Fig. 2 On-Resistance vs Drain Current

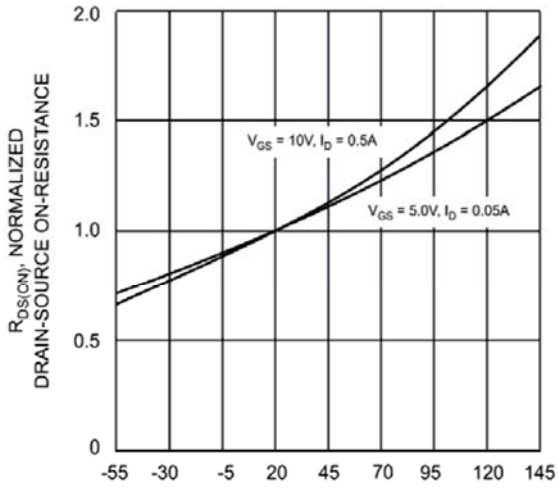


Fig. 3 On-Resistance vs Junction Temperature

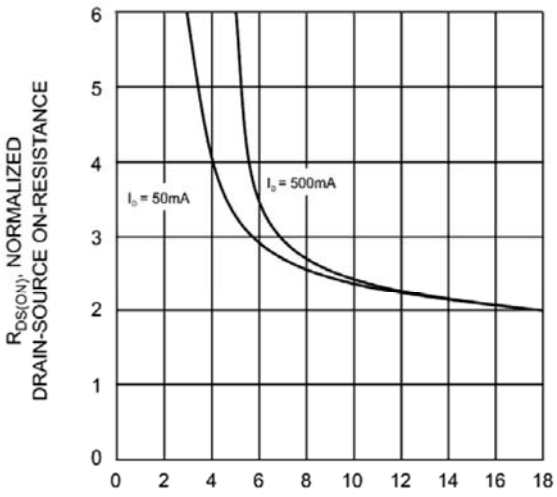


Fig. 4 On-Resistance vs. Gate-Source Voltage