Elektronische Bauelemente

2N7002T

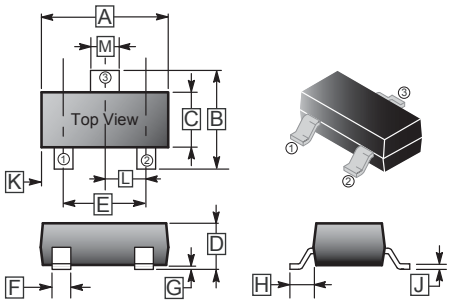
0.115A , 60V , $R_{DS(ON)}$ 7.2Ω
N-Channel Enhancement MOSFET

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

FEATURES

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

SOT-523



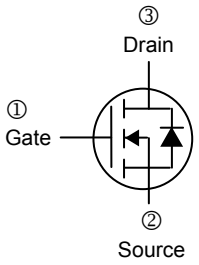
MARKING

K72

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-523	3K	7 inch

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.5	1.7	G	-	0.1
B	1.45	1.75	H	0.55 REF.	
C	0.75	0.85	J	0.1	0.2
D	0.7	0.9	K	-	
E	0.9	1.1	L	0.5 TYP.	
F	0.15	0.25	M	0.25	0.325



ABSOLUTE MAXIMUM RATINGS (T_A=25°C 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
Maximum Junction to Ambient	$R_{\theta JA}$	833	°C / W
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)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Teat Conditions
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	60	-	-	V	V_{GS} =0, I_D =250μA
Gate Threshold Voltage	$V_{GS(th)}$	1	-	-	V	V_{DS}=V_{GS}, I_D=250μA
Gate-Body Leakage	I_{GSS}	-	-	±80	nA	V_{DS}=0, V_{GS}= ±25V
Zero Gate Voltage Drain Current	I_{DSS}	-	-	80	nA	V_{DS} =60V, V_{GS}=0
On-State Drain Current	$I_{D(ON)}$	500	-	-	mA	V_{GS} =10V, V_{DS} =7V
Drain-Source On Resistance	$R_{DS(ON)}$	1	-	7.2	Ω	V_{GS}=10V, I_D=500mA
		1	-	7.2		V_{GS}=5V, I_D =50mA
Forward transfer admittance	g_{fs}	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}=0
Input Capacitance	C_{iss}	-	-	50	pF	V_{DS}=25V, V_{GS}=0, 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

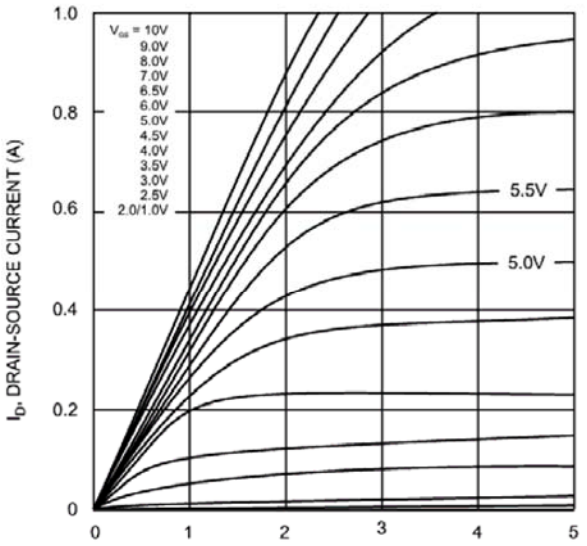


Fig. 1 On-Region Characteristics

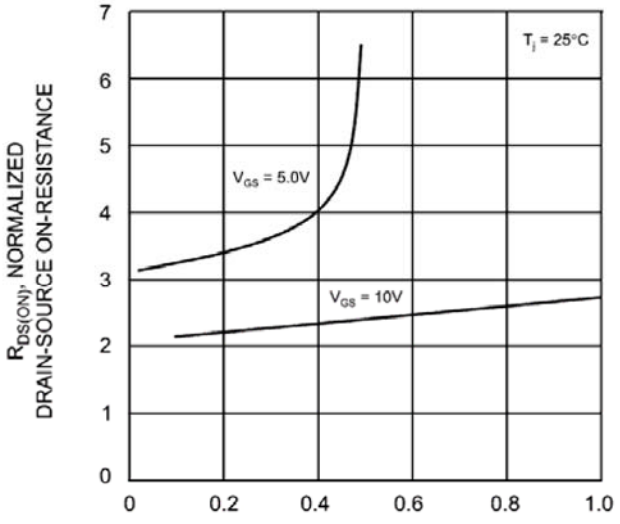


Fig. 2 On-Resistance vs Drain Current

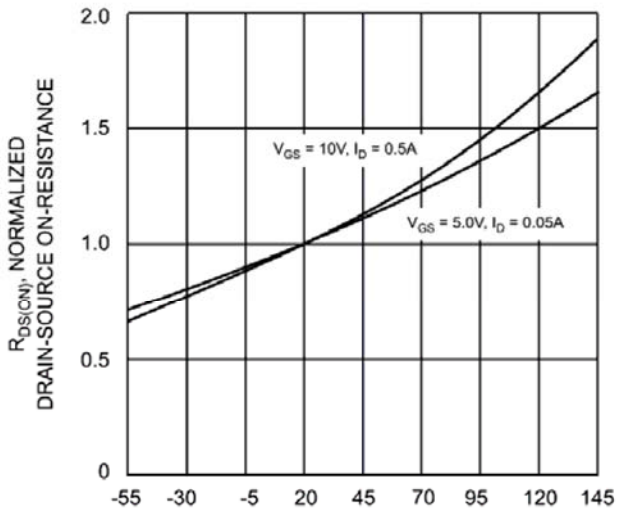


Fig. 3 On-Resistance vs Junction Temperature

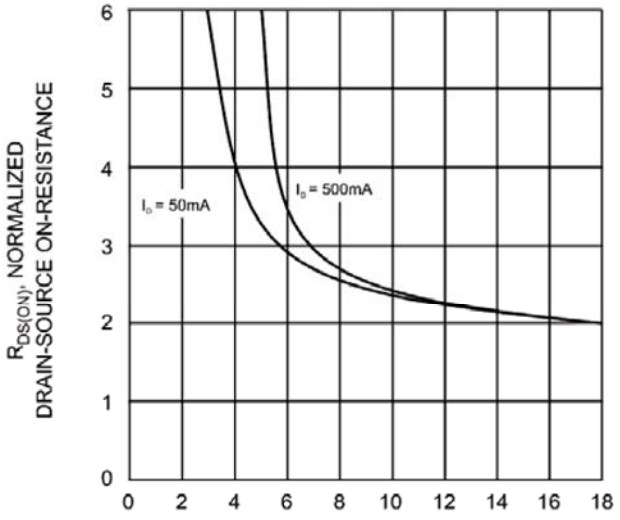


Fig. 4 On-Resistance vs. Gate-Source Voltage