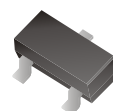


MOSFET

2N7002W-G (N-Channel) RoHS Device

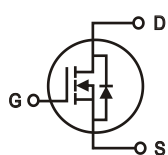


Features

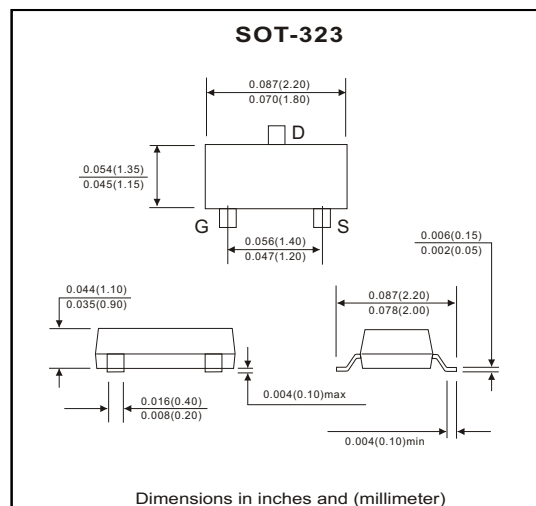
- High density cell design for low $R_{DS(ON)}$.
- Voltage control small signal switch.
- Rugged and reliable.
- High saturation current capability.

Marking: K72

Equivalent Circuit



G : Gate
S : Source
D : Drain



Electrical Ratings (at $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source voltage	V_{DS}	60	V
Drain current	I_D	115	mA
Power dissipation	P_D	225	mW
Junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics (at $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Drain-Source breakdown voltage	$V_{GS}=0\text{V}, I_D=10\mu\text{A}$	$V_{BR(DSS)}$	60			V
	$V_{GS}=0\text{V}, I_D=3\text{mA}$		60			
Gate-Threshold voltage	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	$V_{th(GS)}$	1		2.5	V
Gate-body leakage	$V_{DS}=0\text{V}, V_{GS}=\pm 25\text{V}$	I_{GSS}			± 100	nA
Zero gate voltage drain current	$V_{DS}=60\text{V}, V_{GS}=0\text{V}$	I_{DSS}			1	μA
On-state drain current	$V_{GS}=10\text{V}, V_{DS}=7\text{V}$	$I_{D(ON)}$	500			mA
Drain-Source on resistance	$V_{GS}=10\text{V}, I_D=500\text{mA}$	$r_{DS(ON)}$			7.5	Ω
	$V_{GS}=5\text{V}, I_D=50\text{mA}$				7.5	
Forward trans conductance	$V_{DS}=10\text{V}, I_D=200\text{mA}$	g_{fs}	80			mS
Drain-source on-voltage	$V_{GS}=10\text{V}, I_D=500\text{mA}$	$V_{DS(ON)}$			3.75	V
	$V_{GS}=5\text{V}, I_D=50\text{mA}$				0.375	
Diode forward voltage	$I_S=115\text{mA}, V_{GS}=0\text{V}$	V_{SD}			1.2	V
Input capacitance	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$	C_{iss}			50	pF
Output capacitance		C_{oss}			25	
Reverse transfer capacitance		C_{rss}			5	
Turn-on time	$V_{DD}=25\text{V}, R_L=50\Omega, I_D=500\text{mA}, V_{GEN}=10\text{V}, R_G=25\Omega$	$t_{d(on)}$			20	nS
Turn-off time		$t_{d(off)}$			40	

RATING AND CHARACTERISTIC CURVES (2N7002W-G)

Fig.1 On-Region Characteristics

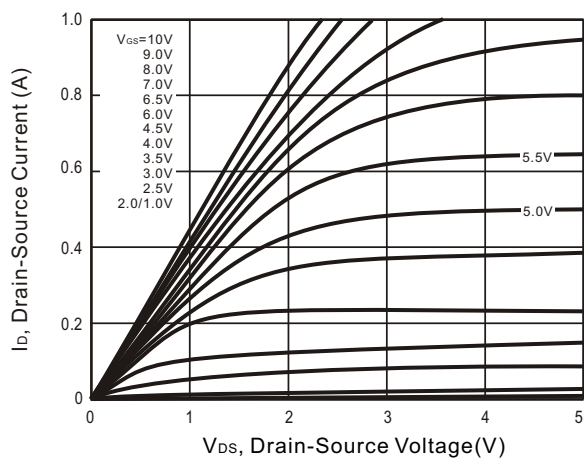


Fig.2 On-Resistance vs Drain Current

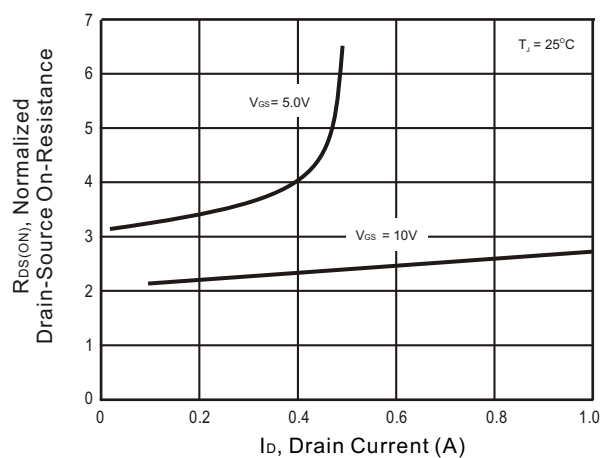


Fig.3 On-Resistance vs Junction Temperature

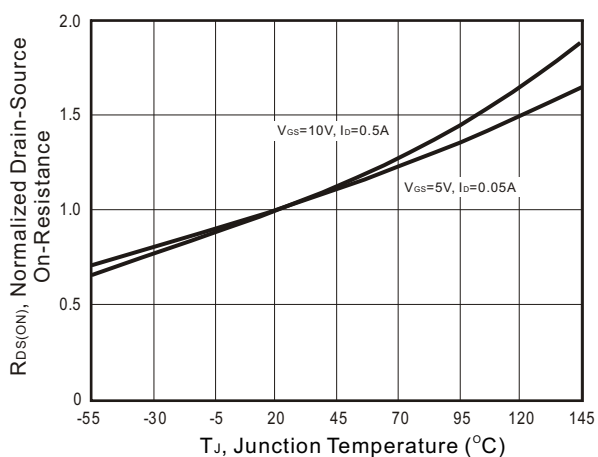


Fig.4 On-Resistance vs Gate-Source Voltage

