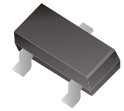


MOSFET



SMD Diodes Specialist

2N7002W-G (N-Channel) RoHS Device

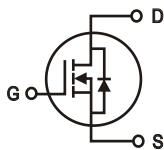


Features

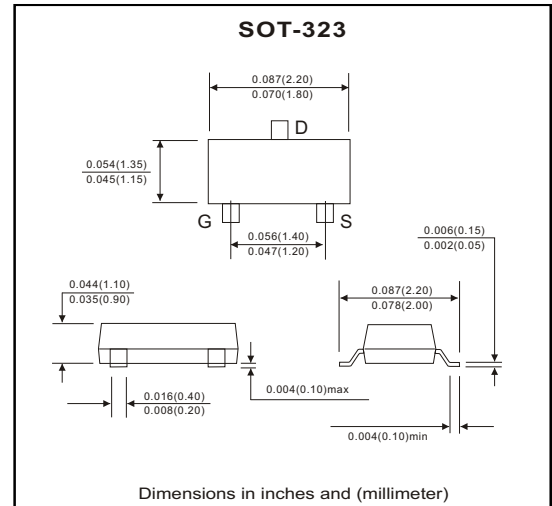
- High density cell design for low $R_{DS(ON)}$.
- Voltage control small signal switch.
- Rugged and reliable.
- High saturation current capability.

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

REV:A

RATING AND CHARACTERISTIC CURVES (2N7002W-G)

Fig.1 On-Region Characteristics

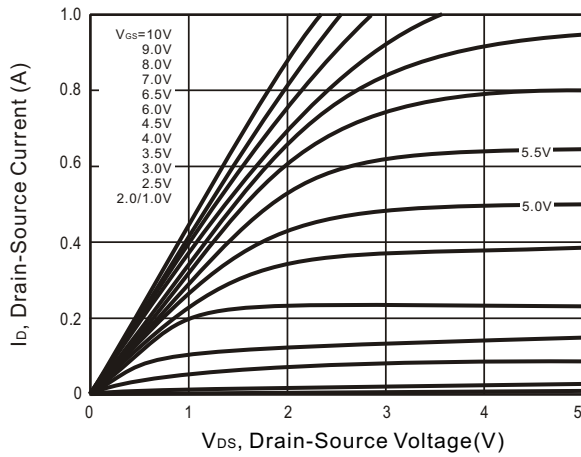


Fig.2 On-Resistance vs Drain Current

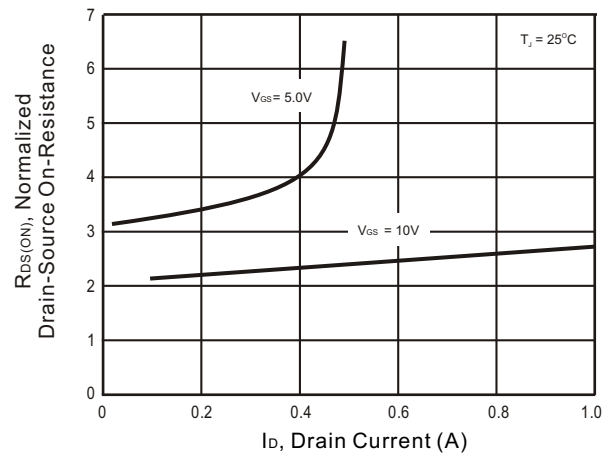


Fig.3 On-Resistance vs Junction Temperature

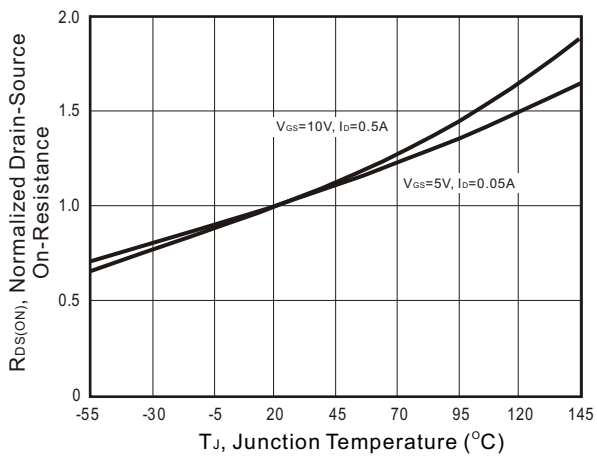


Fig.4 On-Resistance vs Gate-Source Voltage

