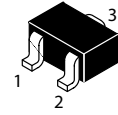
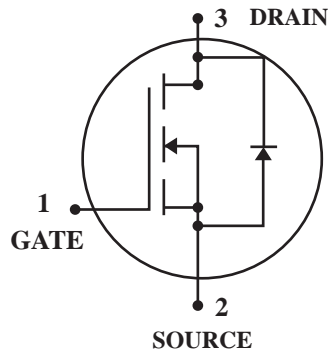


N-Channel MOSFET

(Pb) Lead(Pb)-Free

Features:

- *Low On-Resistance : 7.5 Ω
- *Low Input Capacitance: 22PF
- *Low Output Capacitance : 11PF
- *Low Threshold Voltage :1 .5V(TYE)
- *Fast Switching Speed : 7ns



SOT-323(SC-70)

Maximum Ratings (TA=25°C Unless Otherwise Specified)

Rating	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current (TA=25°C)	I_D	115	mA
Power Dissipation (TA=25°C)	P_D	200	mW
Maximax Junction-to-Ambient	$R_{\theta JA}$	625	°C/W
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150	°C

Device Marking

2N7002W=K72

Electrical Characteristics (T_A=25°C Unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
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Static⁽¹⁾

Drain-Source Breakdown Voltage V _{GS} =0V, I _D =10 μA	V _{(BR)DSS}	60	70	-	V
Gate-Threshold Voltage V _{DS} =V _{GS} , I _D =-250μA	V _{GS(th)}	1.0	1.5	2.0	V
Gate-body Leakage V _{GS} =±20V, V _{DS} =0V	I _{GSS}	-	-	±10	nA
Zero Gate Voltage Drain Current V _{DS} =60V, V _{GS} =0V @ T _c =25°C V _{DS} =60V, V _{GS} =0V @ T _c =125°C	I _{DSS}	-	-	1.0 500	μA
On-State Drain Current V _{GS} =10V, V _{DS} =7.5V	I _{D(on)}	0.5	1.0	-	A
Drain-Source On-Resistance V _{GS} =5V, I _D =0.05A @ T _j =25°C V _{GS} =10V, I _D =0.5A @ T _j =125°C	R _{DS(on)}	-	3.2 4.4	7.5 13.5	Ω
Forward Transconductance V _{DS} =10V, I _D =0.2A	g _{fs}	80	-	-	mS

Dynamic

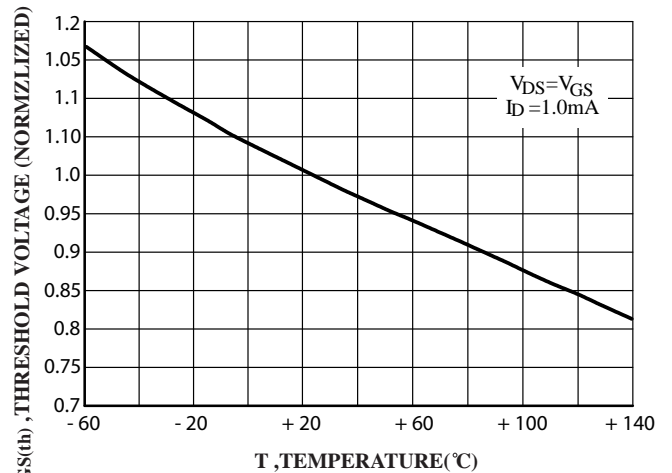
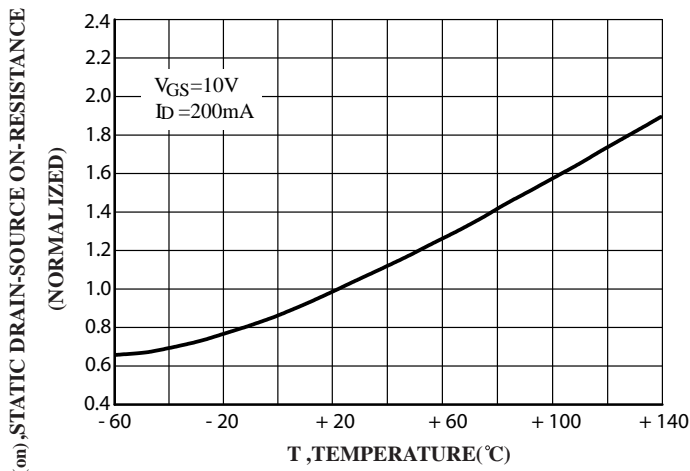
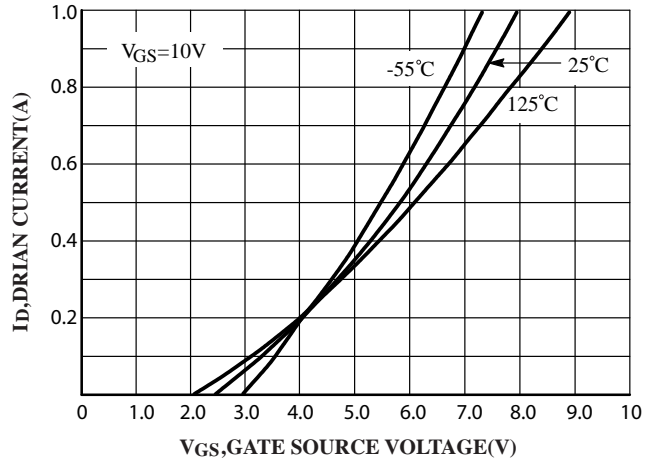
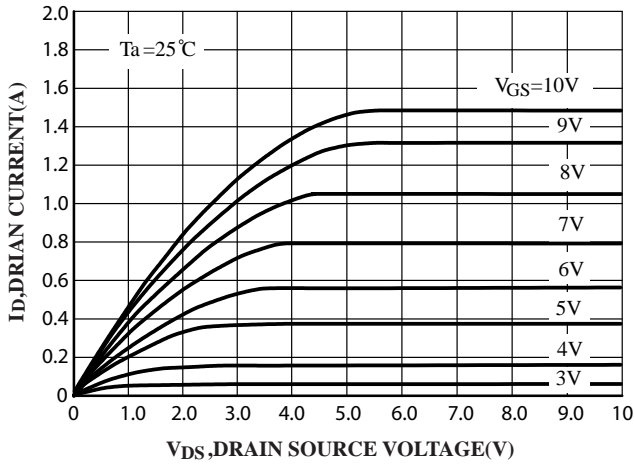
Input Capacitance V _{DS} =25V, V _{GS} =0V, f=1MHz	C _{iss}	-	22	50	pF
Output Capacitance V _{DS} =25V, V _{GS} =0V, f=1MHz	C _{oss}	-	11	25	
Reverse Transfer Capacitance V _{DS} =25V, V _{GS} =0V, f=1MHz	C _{rss}	-	2.0	5.0	

Switching

Turn-On Time V _{DD} =30V, R _L =150Ω, I _D =0.2A V _{GEN} =10V, R _{GEN} =25Ω	t _{d(on)}	-	7.0	20	ns
Turn-Off Time V _{DD} =30V, R _L =150Ω, I _D =0.2A V _{GEN} =10V, R _{GEN} =25Ω	t _{d(off)}	-	11	20	ns

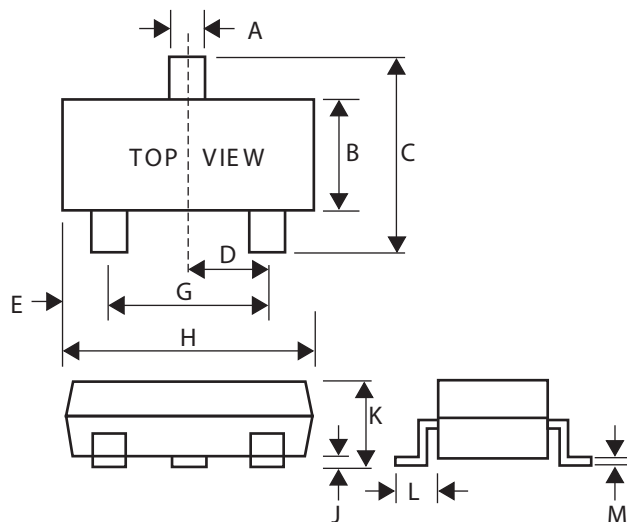
Note:

1. Pulse Test: pulse width ≤300us, duty cycle ≤2%



SOT-323 Outline Demensions

Unit:mm



SOT-323		
Dim	Min	Max
A	0.30	0.40
B	1.15	1.35
C	2.00	2.40
D	-	0.65
E	0.30	0.40
G	1.20	1.40
H	1.80	2.20
J	0.00	0.10
K	0.80	1.00
L	0.42	0.53
M	0.10	0.25