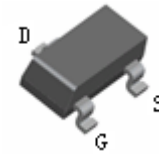


FEATURES

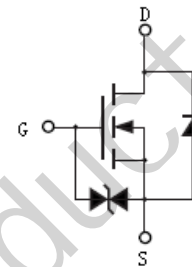
- Low on-resistance.
- High ESD.
- High-speed switching.
- Low-voltage drive(4V).
- Drive circuits can be simple.
- Parallel use is easy.



SOT-23

APPLICATIONS

- N-channel enhancement mode effect transistor.
- Switching application.



ORDERING INFORMATION

Type No.	Marking	Package Code
2N7002K	7002K	SOT-23

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V _{DSS}	Drain-Source voltage	63	V
V _{GSS}	Gate -Source voltage	± 20	V
I _D	Drain current	-continuous	±300
		-Pulsed	±800
I _S	Source current	-continuous	200
		-Pulsed	0.8
P _D	Power Dissipation	350	mW
R _{θJA}	Thermal Resistance,Junction to Ambient	357	°C/W
T _J , T _{stg}	Junction and Storage Temperature	-65 to +150	°C

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Gate leakage current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V			±6	μA
Forward voltage	V _{SD}	I _S =0.3A, V _{GS} =0V			1.2	V
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	63			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _{DS} =250μA	1.1		2.4	V
Drain cutoff Current	I _{DSS}	V _{DS} =60V, V _{GS} =0V			0.06	μA
Drain-source on-state resistance	R _{DS(on)}	I _D =0.05A, V _{GS} =5V			7.5	Ω
		I _D =0.5A, V _{GS} =10V			7.5	
Forward transfer admittance	Y _{fs}	V _{DS} =10V, I _D =200mA	80			mS
Input capacitance	C _{ISS}	V _{DS} =10V, V _{GS} =0V, f=1.0MHz		33		pF
Output capacitance	C _{OSS}			14		
Reverse transfer capacitance	C _{RSS}			9		
Turn-On Delay Time	t _{D(ON)}	V _{DD} = 30V, I _D = 150mA, R _L = 200Ω, V _{GS} = 10V, R _{GEN} = 10Ω		6		ns
Rise time	t _R			5		ns
Turn-Off Delay Time	t _{D(OFF)}			13		ns
Fall time	t _F			80		ns
Total gate charge	Q _g	V _{DD} =30V, V _{GS} =10V I _D =200mA		3	6	nC
Gate-source charge	Q _{gs}			0.6		nC
Gate-drain charge	Q _{gd}			0.5		nC

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

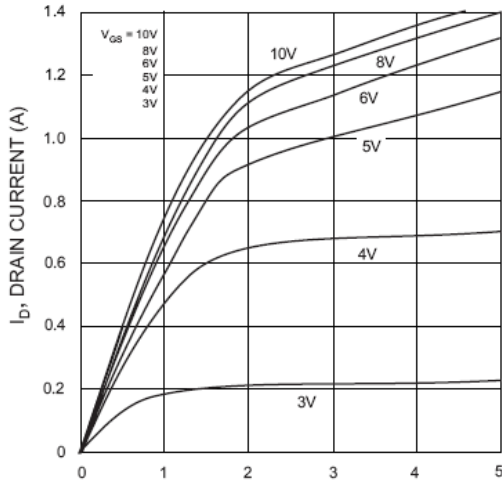


Fig. 1 Typical Output Characteristics

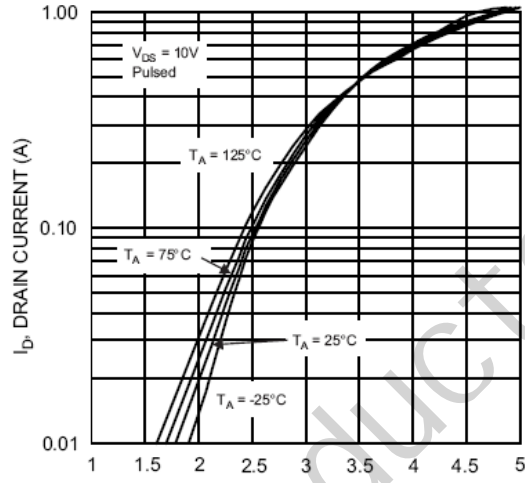


Fig. 2 Typical Transfer Characteristics

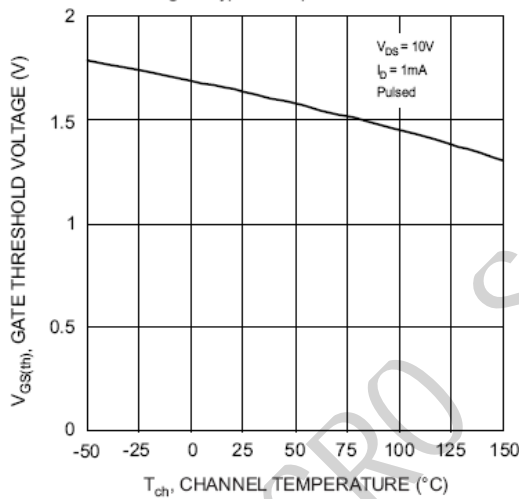


Fig. 3 Gate Threshold Voltage vs. Channel Temperature

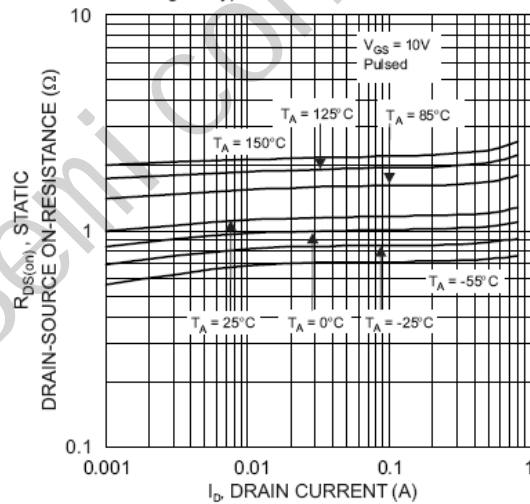


Fig. 4 Static Drain-Source On-Resistance Vs. Drain Current

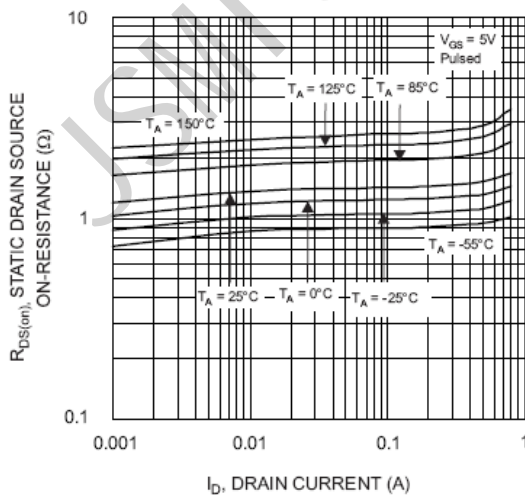


Fig. 5 Static Drain-Source On-Resistance vs. Drain Current

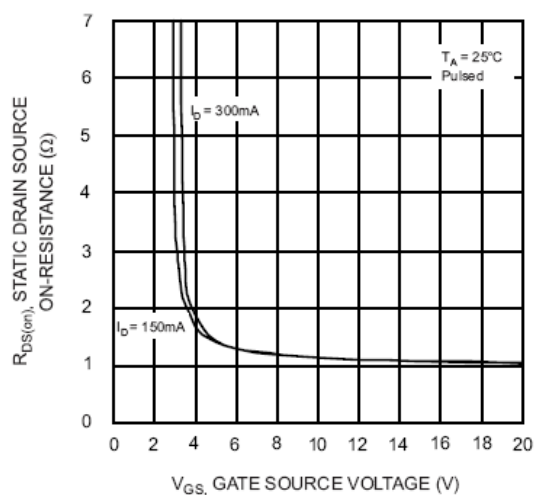
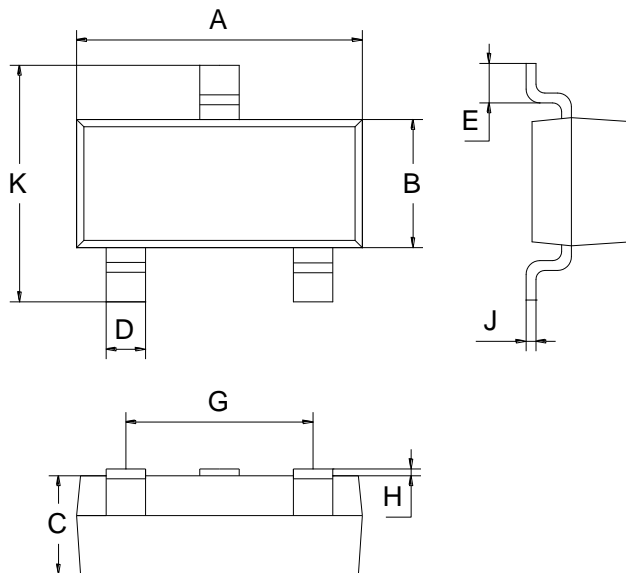


Fig. 6 Static Drain-Source On-Resistance vs. Gate-Source Voltage

PACKAGE OUTLINE

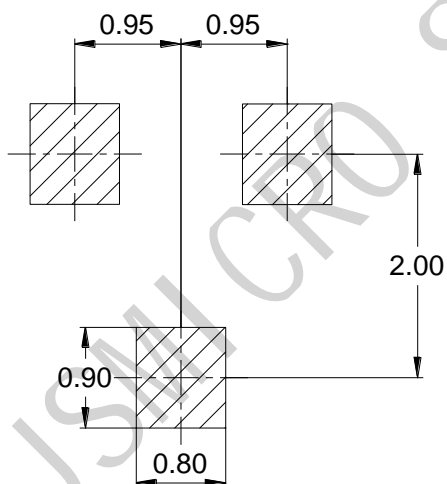
Plastic surface mounted package

SOT-23



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60
All Dimensions in mm		

SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
2N7002K	SOT-23	3000 pcs / Tape & Reel

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