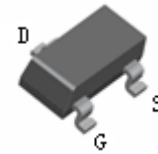
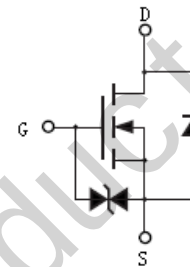


FEATURES

- 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

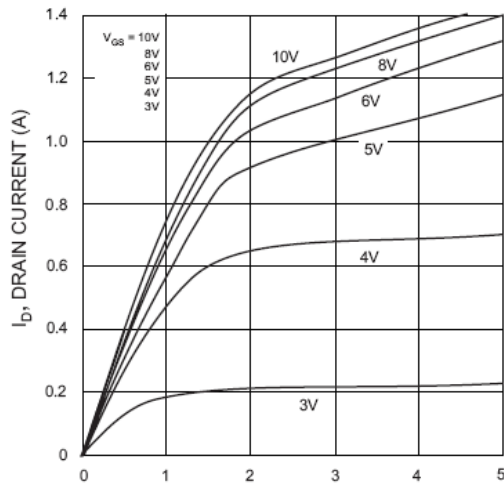
Type No.	Marking	Package Code
RK7002A	7002	SOT-23

MAXIMUM RATING @ Ta=25°C unless otherwise specified

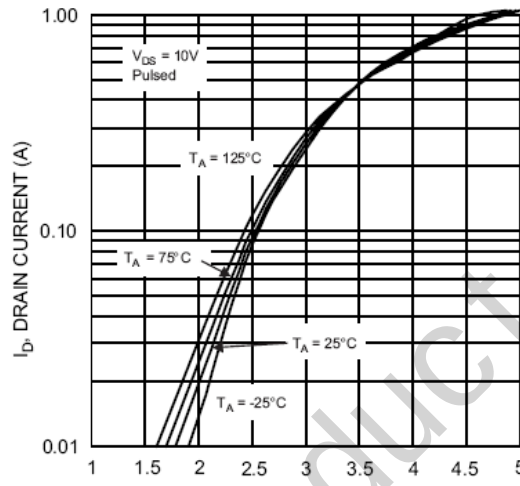
Symbol	Parameter	Value	Units
V_{DSS}	Drain-Source voltage	63	V
V_{GSS}	Gate -Source voltage	± 20	V
I_D	Drain current -continuous	± 300	mA
	-Pulsed	± 800	mA
I_S	Source current -continuous	200	mA
	-Pulsed	0.8	A
P_D	Power Dissipation	350	mW
$R_{\theta JA}$	Thermal Resistance,Junction to Ambient	357	°C/W
T_J, T_{stg}	Junction and Storage Temperature	-65 to +150	°C

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

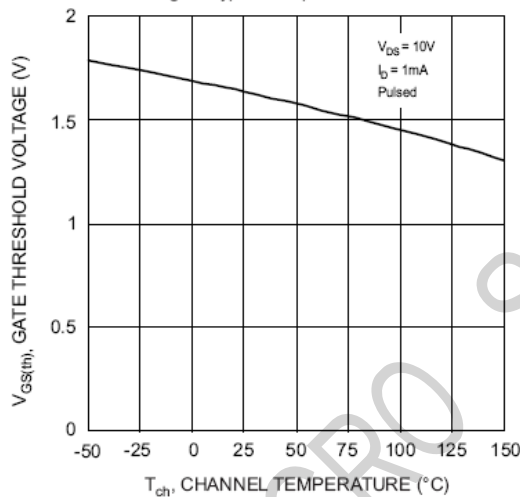
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Gate leakage current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$			± 6	μA
Forward voltage	V_{SD}	$I_S=0.3A, V_{GS}=0V$			1.2	V
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	63			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_{DS}=250\mu A$	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	$t_{D(ON)}$	$V_{DD}=30V, I_D=150mA,$ $R_L=200\Omega, V_{GS}=10V,$ $R_{GEN}=10\Omega$		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 @ $T_a=25^\circ\text{C}$ unless otherwise specified


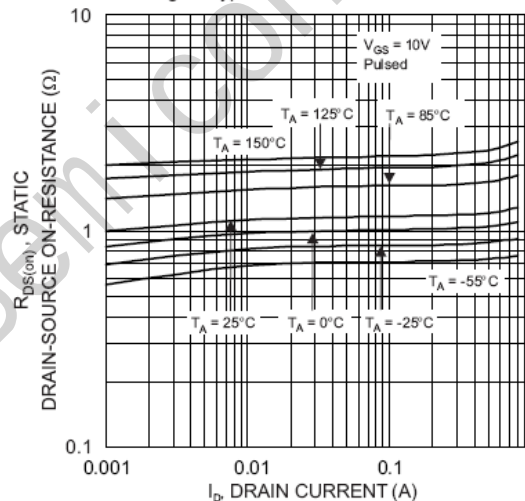
V_{DS} , DRAIN-SOURCE VOLTAGE (V)
 Fig. 1 Typical Output Characteristics



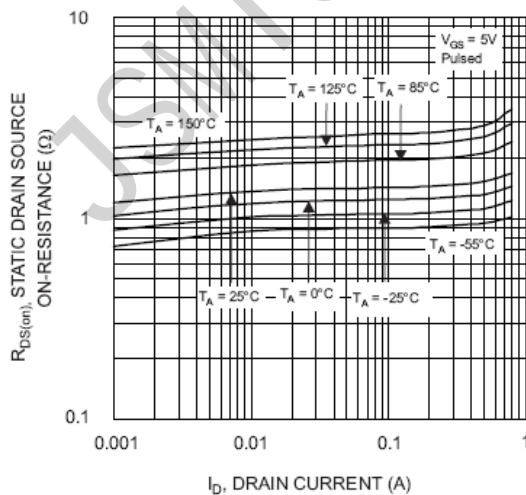
V_{GS} , GATE-SOURCE VOLTAGE (V)
 Fig. 2 Typical Transfer Characteristics



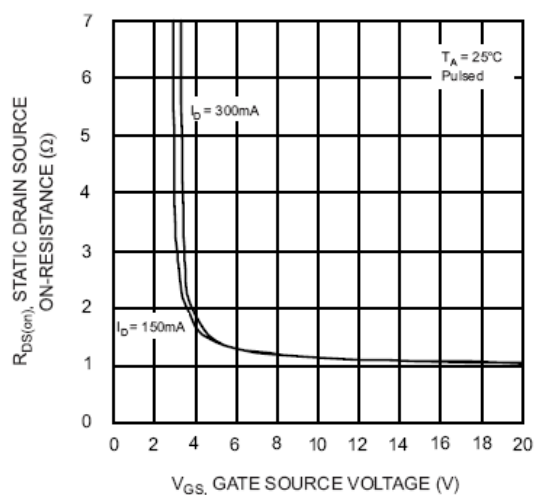
T_{ch} , CHANNEL TEMPERATURE ($^\circ\text{C}$)
 Fig. 3 Gate Threshold Voltage
 vs. Channel Temperature



$R_{DS(on)}$, STATIC
 DRAIN-SOURCE ON-RESISTANCE (Ω)
 Fig. 4 Static Drain-Source On-Resistance
 Vs. Drain Current



I_D , DRAIN CURRENT (A)
 Fig. 5 Static Drain-Source On-Resistance
 vs. Drain Current

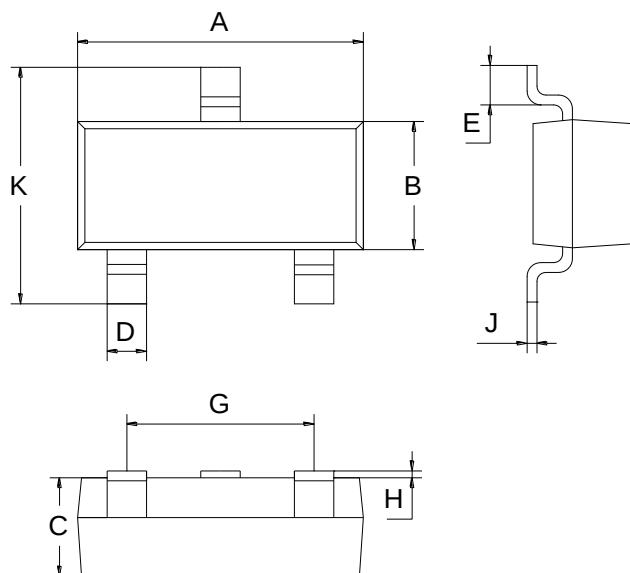


V_{GS} , GATE SOURCE VOLTAGE (V)
 Fig. 6 Static Drain-Source On-Resistance
 vs. Gate-Source Voltage

PACKAGE OUTLINE

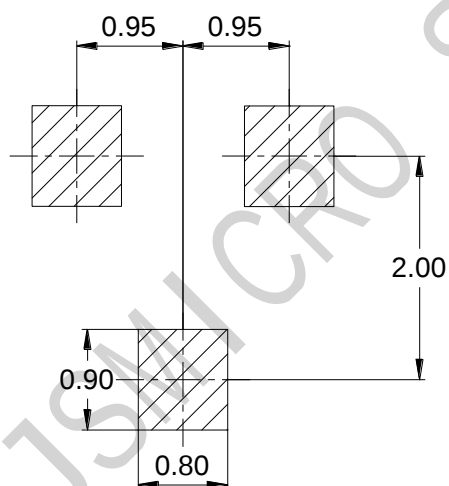
Plastic surface mounted package

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



Unit: mm

PACKAGE INFORMATION

Device	Package	Shipping
RK7002A	SOT-23	3000 pcs / Tape & Reel