WILLAS

RoHS COMPLIANT

Small Signal MOSFET Silicon N-Channel

SRK7002LT1

●Features

1) Low on-resistance.
2) Fast switching speed.
3) Low-voltage drive.
4) Easily designed drive circuits.
5) Easy to parallel.
6) Pb-Free package is available
7) ESD Protected:2000V

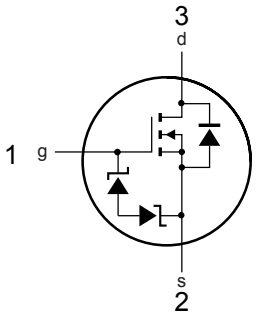


SOT-23

- **Pb-Free package is available**
  RoHS product for packing code suffix ”G”
  Halogen free product for packing code suffix “H”

●Device Marking and Ordering Information

Device	Marking	Shipping
SRK7002LT1	RK	3000 Tape & Reel



●Absolute maximum ratings (Ta=25°C)

Parameter		Symbol	Limits	Unit
Drain-source voltage		V_{DSS}	60	V
Gate-source voltage		V_{GSS}	±20	V
Drain current	Continuous	I_D	115	mA
	Pulsed	I_{DP}*1	0.8	A
Drain reverse current	Continuous	I_{DR}	115	mA
	Pulsed	I_{DRP}*1	0.8	A
Total power dissipation		P_D*2	225	mW
Channel temperature		Tch	150	°C
Storage temperature		Tstg	−55~+150	°C

*1 Pw≤10μs, Duty cycle≤1%
*2 When mounted on a 1×0.75×0.062 inch glass epoxy board.

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●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Gate-source leakage current	I_{GSS}	–	–	±10	μA	V_{GS}=±20V, V_{DS}=0V
Drain-source breakdown voltage	$V_{(BR)DSS}$	60	–	–	V	I_D=10μA, V_{GS}=0V
Zero gate voltage drain current	I_{DSS}	–	–	1	μA	V_{DS}=60V, V_{GS}=0V
Gate threshold voltage	$V_{GS(th)}$	1	1.85	2.5	V	V_{DS}=V_{GS} , I_D=250uA
Drain-source on-state resistance	$R_{DS(on)}$*	–	–	7.5	Ω	I_D=0.5A, V_{GS}=10V
		–	–	7.5		I_D=0.05A, V_{GS}=5V
Forward transfer admittance	$\|Y_{fs}\|$*	80	–	–	mS	V_{DS}=10V, I_D=0.2A
Input capacitance	C_{iss}	–	25	50	pF	V_{DS}=25V V_{GS}=0V f=1MHz
Output capacitance	C_{oss}	–	10	25	pF	
Reverse transfer capacitance	C_{rss}	–	3.0	5.0	pF	
Turn-on delay time	$t_{d(on)}$*	–	12	20	ns	I_D=200mA, V_{DD}≒30V V_{GS}=10V, R_L=150Ω ,R_{GS}=10Ω
Turn-off delay time	$t_{d(off)}$*	–	20	30	ns	

* P_W≤300μs, Duty cycle≤1%

●Electrical characteristic curves

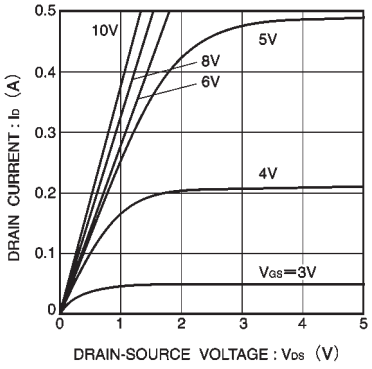


Fig.1 Typical output characteristics

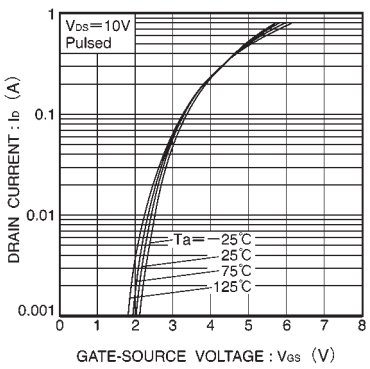


Fig.2 Typical transfer characteristics

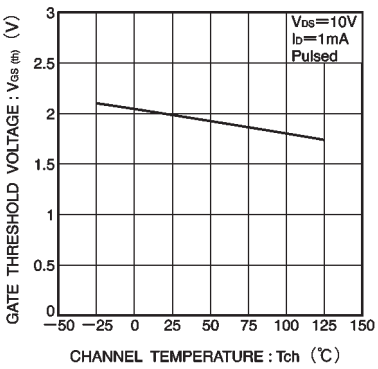


Fig.3 Gate threshold voltage vs. channel temperature

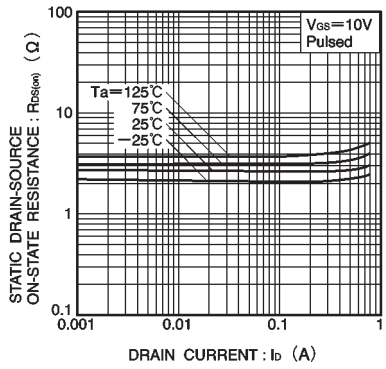


Fig.4 Static drain-source on-state resistance vs. drain current (Ⅰ)

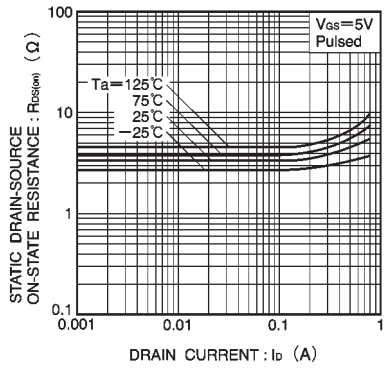


Fig.5 Static drain-source on-state resistance vs. drain current (Ⅱ)

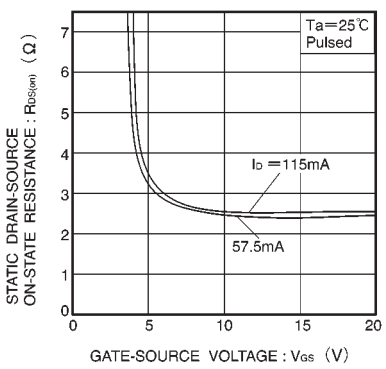


Fig.6 Static drain-source on-state resistance vs. gate-source voltage

●Electrical characteristic curves (continues)

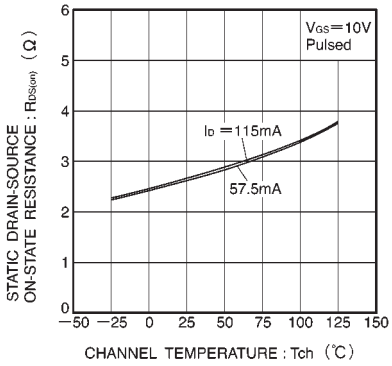


Fig.7 Static drain-source on-state resistance vs. channel temperature

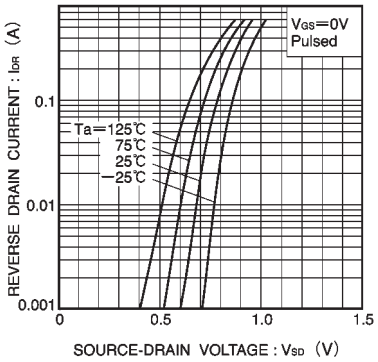


Fig.8 Reverse drain current vs. source-drain voltage (Ⅰ)

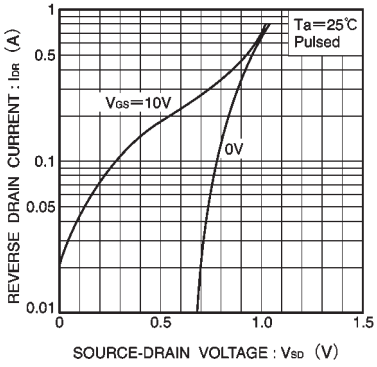


Fig.9 Reverse drain current vs. source-drain voltage (Ⅱ)

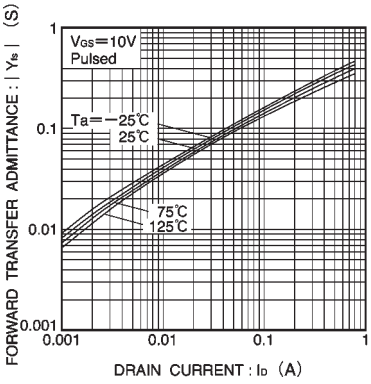


Fig.10 Forward transfer admittance vs. drain current

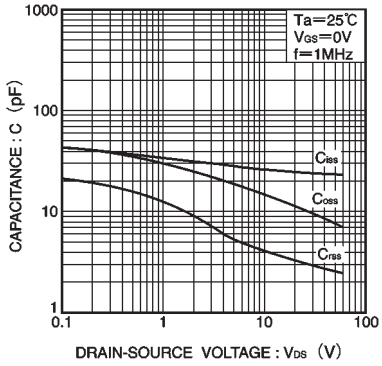


Fig.11 Typical capacitance vs. drain-source voltage

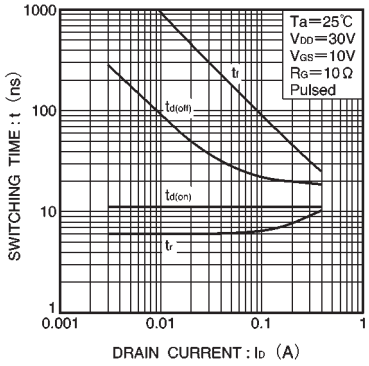


Fig.12 Switching characteristics (See Figures 13 and 14 for the measurement circuit and resultant waveforms)

●Switching characteristics measurement circuit

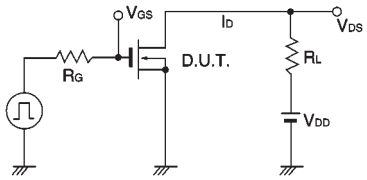


Fig.13 Switching time measurement circuit

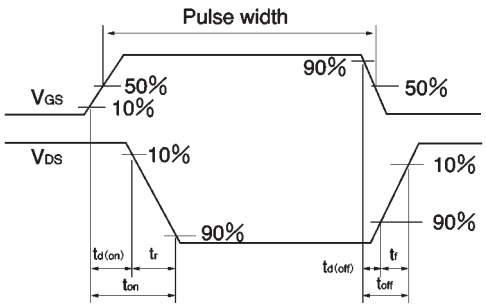


Fig.14 Switching time waveforms

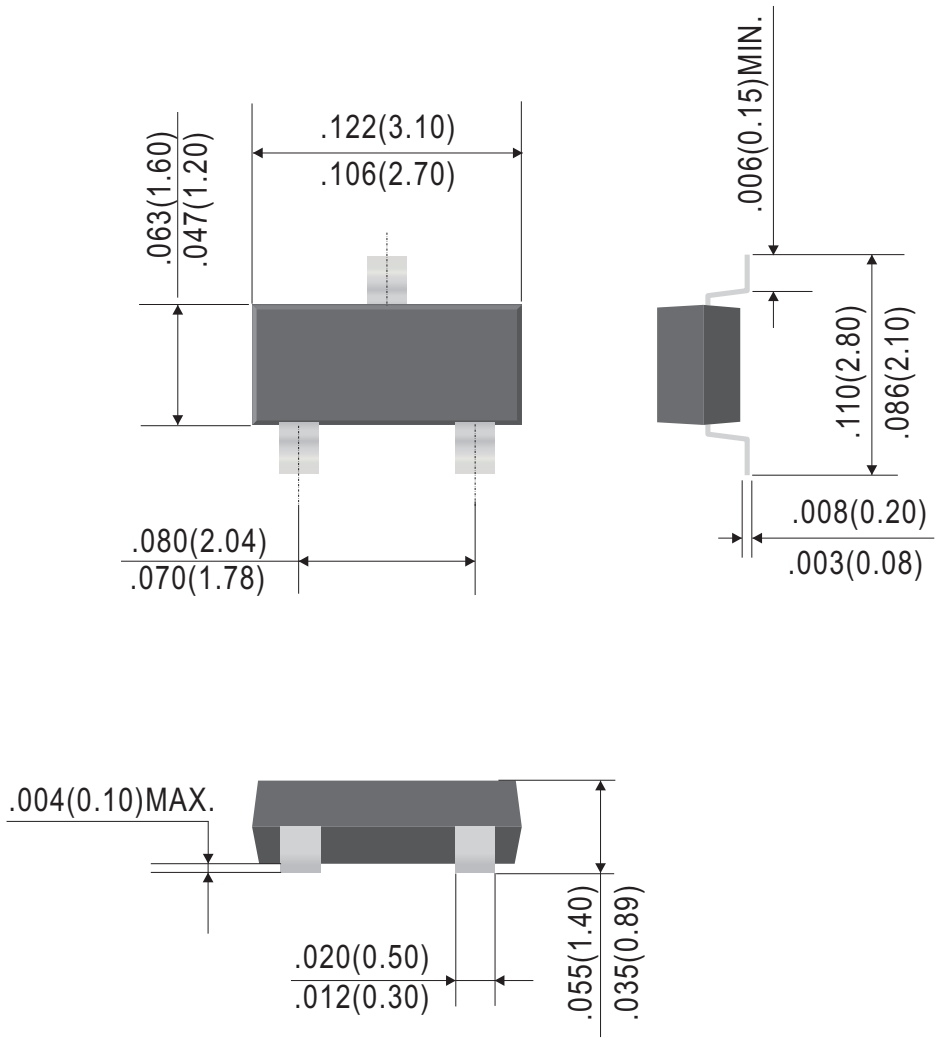
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Dimensions in inches and (millimeters)

