



**THE DATASHEET OF
RK7002AT116**



Transistors

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Gate 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
Drain cutoff current	I _{DSS}	–	–	1	μA	V _{DS} =60V, V _{GS} =0V
Gate threshold voltage	V _{GS(th)}	1	–	2.5	V	V _{DS} =10V, I _D =1mA
Drain-source on-state resistance	R _{DS(on)} *1	–	0.7	1.0	Ω	I _D =300mA, V _{GS} =10V
		–	1.1	1.5		I _D =300mA, V _{GS} =4V
Forward transfer admittance	Y _{fs} *1	200	–	–	mS	V _{DS} =10V, I _D =300mA
Input capacitance	C _{iss}	–	33	–	pF	V _{DS} =10V
Output capacitance	C _{oss}	–	14	–	pF	V _{GS} =0V
Reverse transfer capacitance	C _{rss}	–	9	–	pF	f=1MHz
Turn-on delay time	t _{d(on)} *2	–	6	–	ns	I _D =150mA, V _{DD} =30V
Rise time	t _r *2	–	5	–	ns	V _{GS} =10V
Turn-off delay time	t _{d(off)} *2	–	13	–	ns	R _L =200Ω
Fall time	t _f *2	–	80	–	ns	R _{GS} =10Ω
Total gate charge	Q _g *2	–	3	6	nC	V _{DD} =30V
Gate-source charge	Q _{gs} *2	–	0.6	–	nC	V _{GS} =10V
Gate-drain charge	Q _{gd} *2	–	0.5	–	nC	I _D =200mA

*1 P_W≤300μs, Duty cycle≤1%
*2 Pulsed

●Packaging specifications

Type	Package	Taping
	Code	T116
	Basic ordering unit (pieces)	3000
RK7002A		○

●Electrical characteristic curves

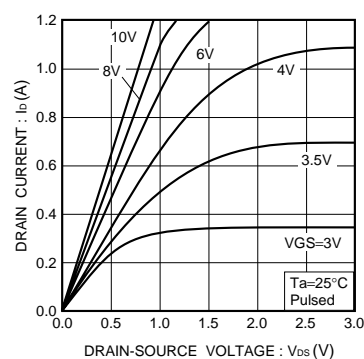


Fig.1 Typical output characteristics

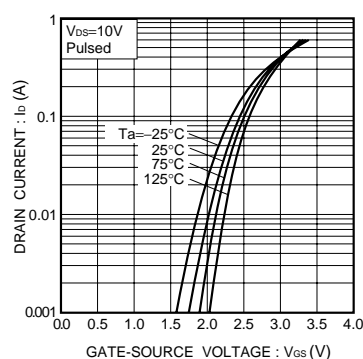


Fig.2 Typical transfer characteristics

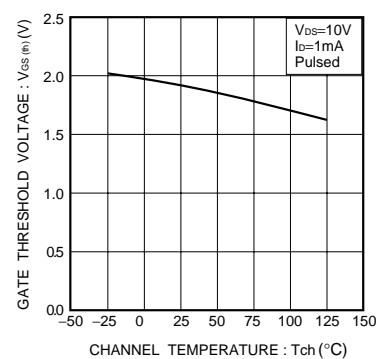


Fig.3 Gate threshold voltage vs. channel temperature

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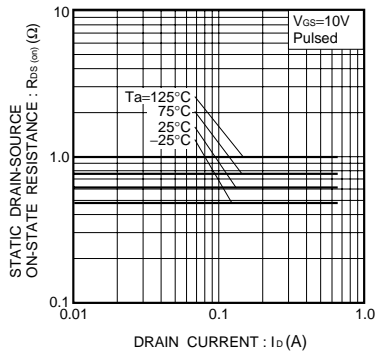


Fig.4 Static drain-source on-state resistance vs. drain current (I)

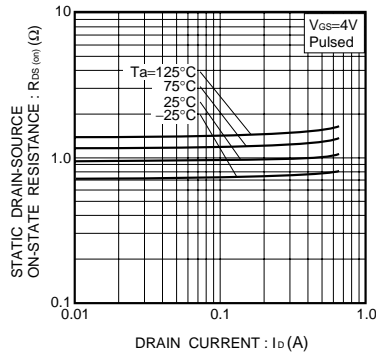


Fig.5 Static drain-source on-state resistance vs. drain current (II)

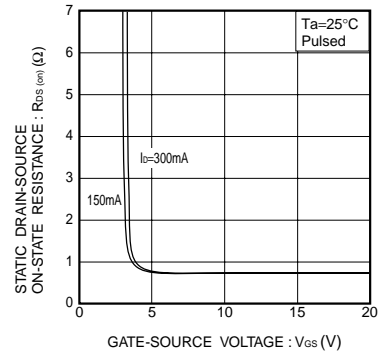


Fig.6 Static drain-source on-state resistance vs. gate-source voltage

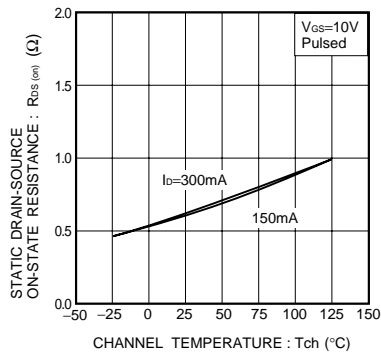


Fig.7 Static drain-source on-state resistance vs. channel temperature

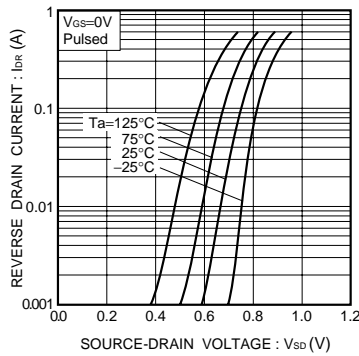


Fig.8 Reverse drain current vs. source-drain voltage (I)

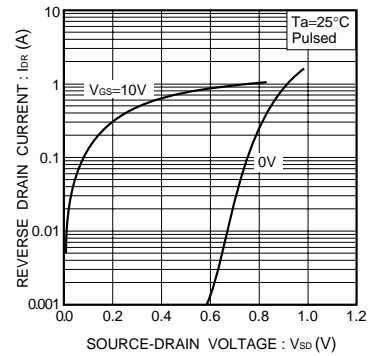


Fig.9 Reverse drain current vs. source-drain voltage (II)

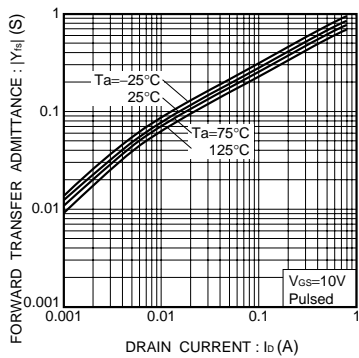


Fig.10 Forward transfer admittance vs. drain current

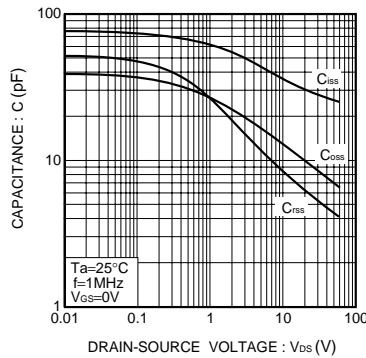


Fig.11 Typical capacitance vs. drain-source voltage

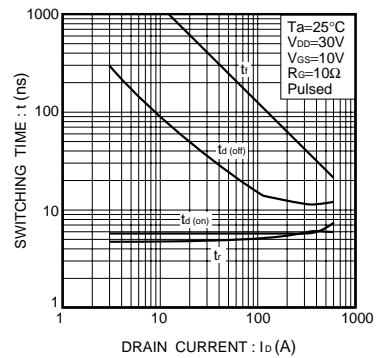


Fig.12 Switching characteristics (See Figures 13 and 14 for the measurement circuit and resultant waveforms)

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● Switching characteristics measurement circuit

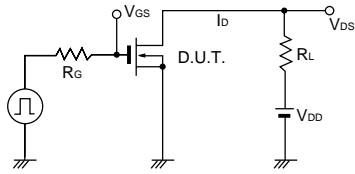


Fig.13 Switching time measurement circuit

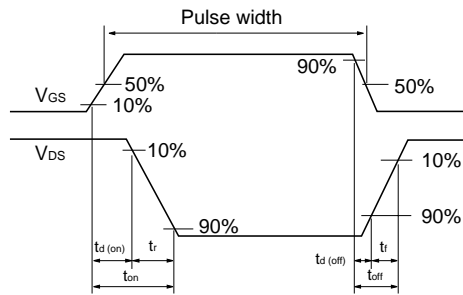


Fig.14 Switching time waveforms

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