

Transistors

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Gate-source leakage	I _{GSS}	–	–	±100	nA	V _{GS} = ±20V, V _{DS} =0V
Drain-source breakdown voltage	V _{(BR)DSS}	60	–	–	V	I _D =1mA, V _{GS} =0V
Zero gate voltage drain current	I _{DSS}	–	–	100	μA	V _{DS} =60V, V _{GS} =0V
Gate threshold voltage	V _{GS(th)}	1.0	–	2.5	V	V _{DS} =10V, I _D =1mA
Static drain-source on-state resistance	R _{DS(on)}	–	0.3	0.35	Ω	I _D =1A, V _{GS} =10V
		–	0.4	0.5		I _D =1A, V _{GS} =4V
Forward transfer admittance	Y _{fs}	1.0	–	–	S	V _{DS} =10V, I _D =1A
Input capacitance	C _{iss}	–	400	–	pF	V _{DS} =10V
Output capacitance	C _{oss}	–	150	–	pF	V _{GS} =0V
Reverse transfer capacitance	C _{rss}	–	50	–	pF	f=1MHz
Turn-on delay time	t _{d(on)}	–	10	–	ns	I _D =1A, V _{DD} ≒30V
Rise time	t _r	–	20	–	ns	V _{GS} =10V
Turn-off delay time	t _{d(off)}	–	100	–	ns	R _L =30Ω
Fall time	t _f	–	40	–	ns	R _G =10Ω
Reverse recovery time (Body Diode)	t _{rr}	–	100	–	ns	I _{DR} =2A, V _{GS} =0V, di/dt=50A/μs

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●Electrical characteristics curve

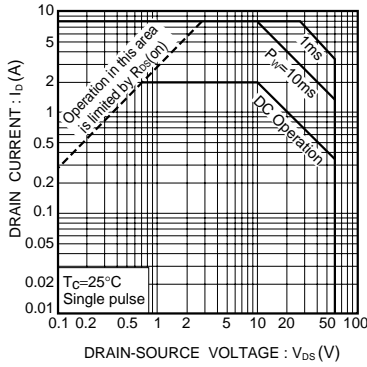


Fig.1 Maximum Safe Operating Area

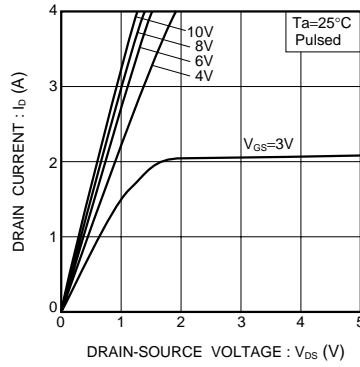


Fig.2 Typical Output Characteristics

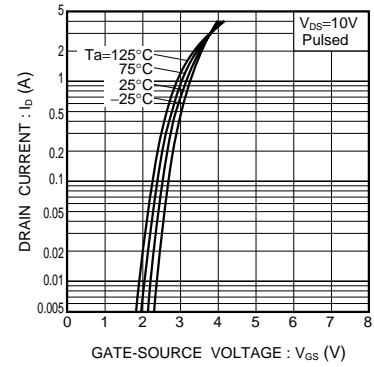


Fig.3 Typical Transfer Characteristics

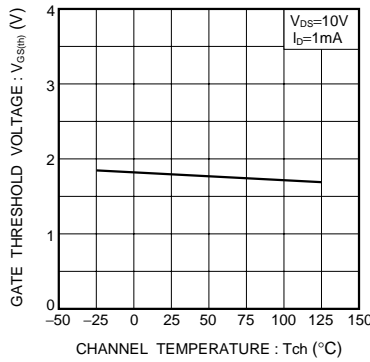


Fig.4 Gate Threshold Voltage vs. Channel Temperature

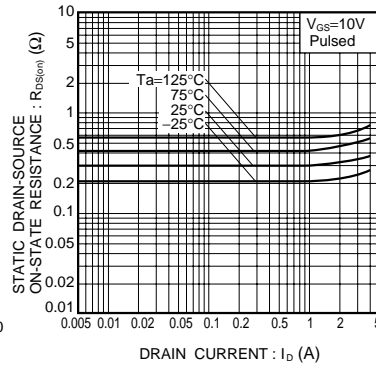


Fig.5 Static Drain-Source On-State Resistance vs. Drain Current (I)

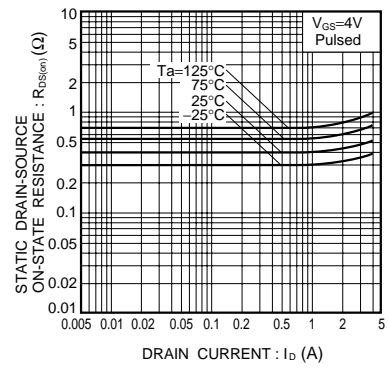


Fig.6 Static Drain-Source On-State Resistance vs. Drain Current (II)

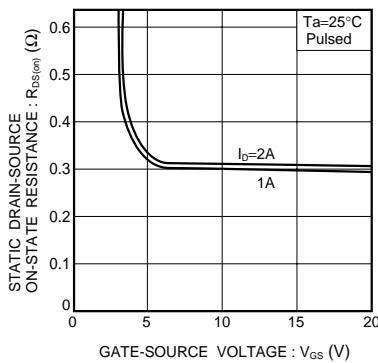


Fig.7 Static Drain-Source On-State Resistance vs. Gate-Source Voltage

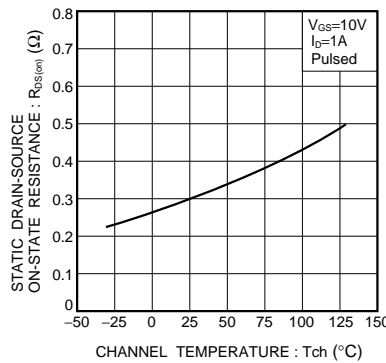


Fig.8 Static Drain-Source On-State Resistance vs. Channel Temperature

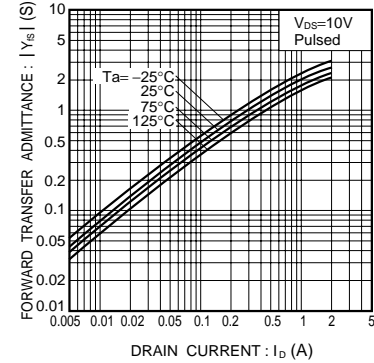


Fig.9 Forward Transfer Admittance vs. Drain Current

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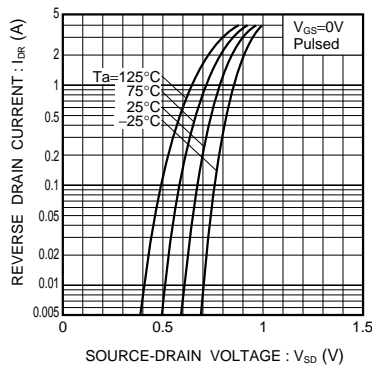


Fig.10 Reverse Drain Current vs. Source-Drain Voltage (I)

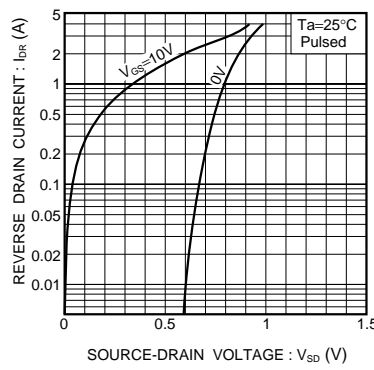


Fig.11 Reverse Drain Current vs. Source-Drain Voltage (II)

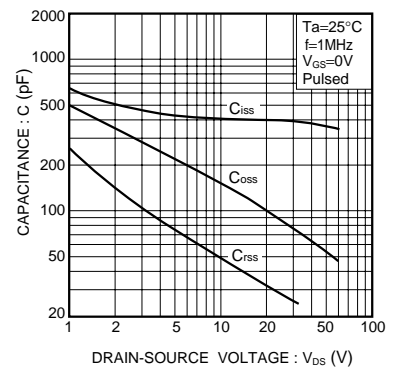


Fig.12 Typical Capacitance vs. Drain-Source Voltage

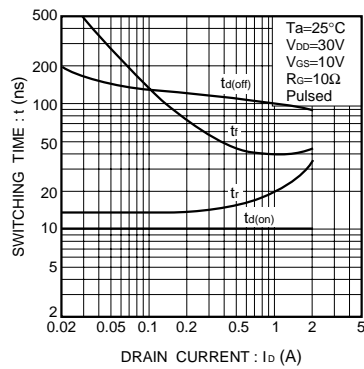


Fig.13 Switching characteristics (See Figure. 15 and 16 for the measurement circuit and resultant waveforms)

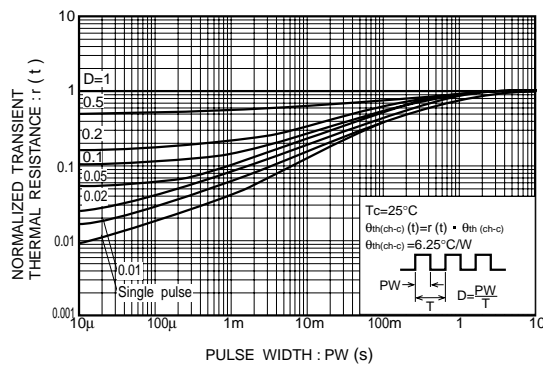


Fig.14 Normalized Transient Thermal Resistance vs. Pulse Width

● Switching characteristics measurement circuit

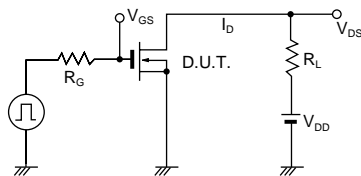


Fig.15 Switching Time Test Circuit

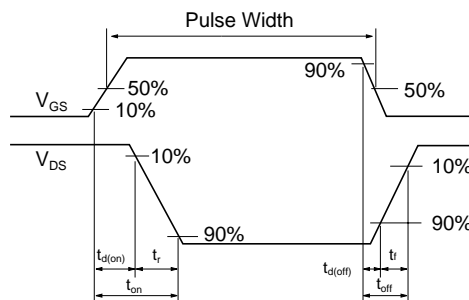


Fig.16 Switching Time Waveforms

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