

RDS035L03

Transistors

● Thermal resistance (Ta=25°C)

Parameter	Symbol	Limits	Unit
Channel to Ambient	Rth(ch-A)	62.5	°C / W

● Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Gate-Source Leakage	I _{GSS}	–	–	±10	μA	V _{GS} =±20V, V _{DS} =0V
Drain-Source Breakdown Voltage	V _{(BR) DSS}	30	–	–	V	I _D =1mA, V _{GS} =0V
Zero Gate Voltage Drain Current	I _{DSS}	–	–	10	μA	V _{DS} =30V, 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)}	–	62	80	mΩ	I _D =3.5A, V _{GS} =10V
		–	105	134		I _D =3.5A, V _{GS} =4.5V
		–	132	172		I _D =3.5A, V _{GS} =4V
Forward Transfer Admittance	Y _{fs} *	2.5	–	–	S	I _D =3.5A, V _{DS} =10V
Input Capacitance	C _{iss}	–	180	–	pF	V _{DS} =10V
Output Capacitance	C _{oss}	–	95	–	pF	V _{GS} =0V
Reverse Transfer Capacitance	C _{rss}	–	38	–	pF	f=1MHz
Turn-On Delay Time	t _{d(on)} *	–	6	–	ns	I _D =2A, V _{DD} =15V
Rise Time	t _r *	–	12	–	ns	V _{GS} =10V
Turn-Off Delay Time	t _{d(off)} *	–	20	–	ns	R _L =7.5Ω
Fall Time	t _f *	–	6	–	ns	R _{GS} =10Ω
Total Gate Charge	Q _g *	–	6.5	–	nC	V _{DD} =15V
Gate-Source Charge	Q _{gs} *	–	1.2	–	nC	V _{GS} =10V
Gate-Drain Charge	Q _{gd} *	–	1.8	–	nC	I _D =3.5A

* Pulsed

● Body diode characteristics (Source-Drain Characteristics) (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Forward Voltage	V _{SD} *	–	–	1.5	V	I _S =3.5A, V _{GS} =0V
Reverse Recovery Time	t _{rr} *	–	26	–	ns	I _{DR} =3.5A, V _{GS} =0V
Reverse Recovery Charge	Q _{rr} *	–	24	–	nC	di/dt=50A/μs

* Pulsed

Transistors

●Electrical characteristic curves

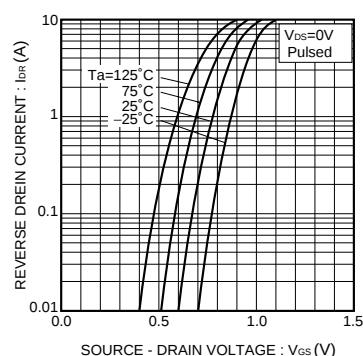


Fig.1 Reverse Drain Current vs. Source - Drain Voltage

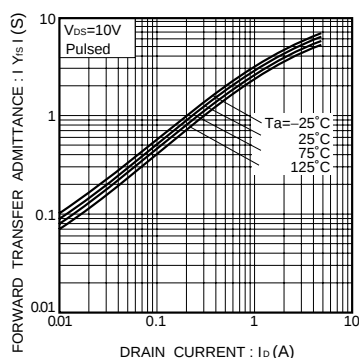


Fig.2 Forward Transfer Admittance vs. Drain Current

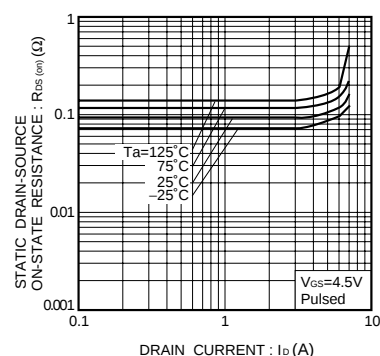


Fig.3 Static Drain-Source On-State Resistance vs. Drain Current (I)

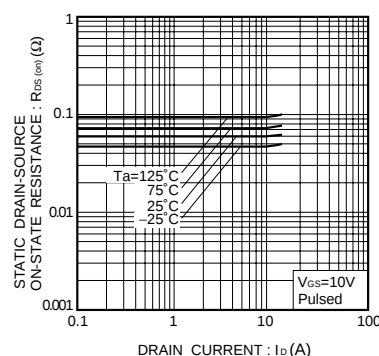


Fig.4 Static Drain-Source On-State Resistance vs. Drain Current (II)

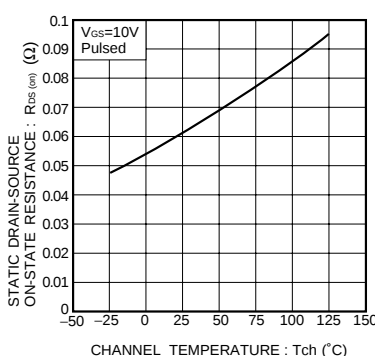


Fig.5 Static Drain-Source On-State Resistance vs. Channel Temperature

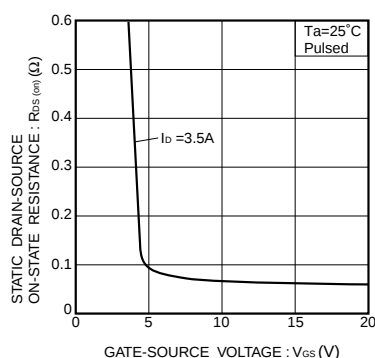


Fig.6 Static Drain-Source On-State Resistance vs. Gate-Source Voltage

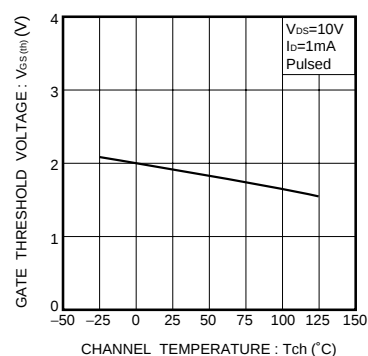


Fig.7 Gate Threshold Voltage vs. Channel Temperature

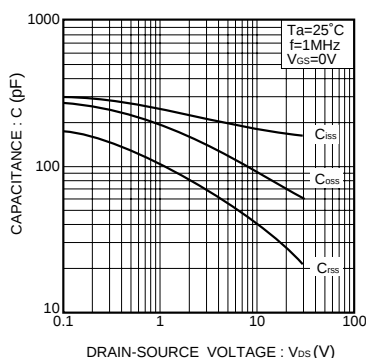


Fig.8 Typical Capacitance vs. Drain-Source Voltage

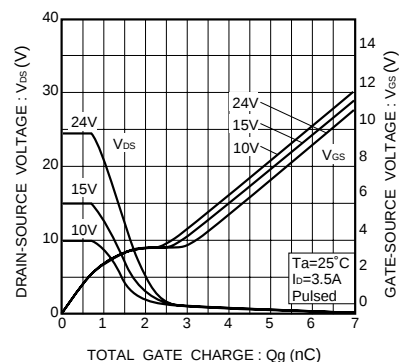


Fig.9 Dynamic Input Characteristics

Transistors

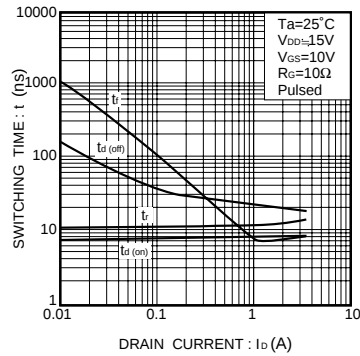


Fig.10 Switching Characteristics

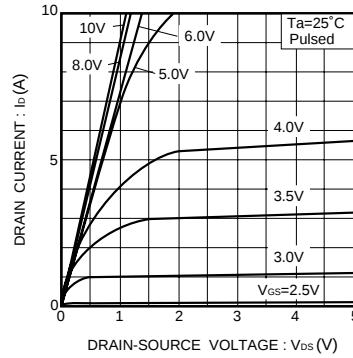


Fig.11 Typical Output Characteristics

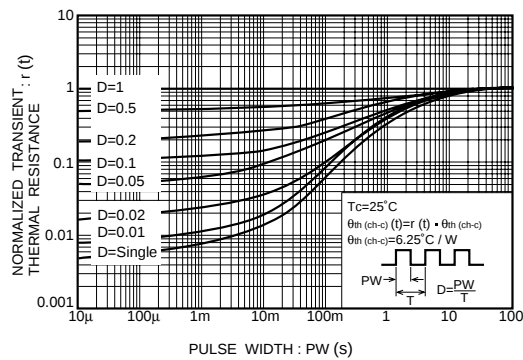


Fig.12 Normalized Transient Thermal Resistance vs. Pulse Width