

Transistors

<MOSFET and Di>

Parameter	Symbol	Limits	Unit
Total power dissipation	P_D *1	1.0	W / TOTAL
Range of storage temperature	Tstg	-55 to +150	°C

*1 Mounted on a ceramic board

●Electrical characteristics (Ta=25°C)

<MOSFET>

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Gate-source leakage	I_{GSS}	-	-	10	μA	$V_{GS}=12V, V_{DS}=0V$
Drain-source breakdown voltage	$V_{(BR) DSS}$	30	-	-	V	$I_D=1mA, V_{GS}=0V$
Zero gate voltage drain current	I_{DSS}	-	-	1	μA	$V_{DS}=30V, V_{GS}=0V$
Gate threshold voltage	$V_{GS(th)}$	0.5	-	1.5	V	$V_{DS}=10V, I_D=1mA$
Static drain-source on-state resistance	$R_{DS(on)}$ *	-	170	240	$m\Omega$	$I_D=1.5A, V_{GS}=4.5V$
		-	180	250	$m\Omega$	$I_D=1.5A, V_{GS}=4V$
		-	240	340	$m\Omega$	$I_D=1.5A, V_{GS}=2.5V$
Forward transfer admittance	$ Y_{fs} $ *	1.5	-	-	S	$V_{DS}=10V, I_D=1.5A$
Input capacitance	C_{iss}	-	80	-	pF	$V_{DS}=10V$
Output capacitance	C_{oss}	-	14	-	pF	$V_{GS}=0V$
Reverse transfer capacitance	C_{rss}	-	12	-	pF	$f=1MHz$
Turn-on delay time	$t_{d(on)}$ *	-	7	-	ns	$V_{DD} \doteq 15V$ $I_D=0.75A$
Rise time	t_r *	-	9	-	ns	$V_{GS}=4.5V$
Turn-off delay time	$t_{d(off)}$ *	-	15	-	ns	$R_L=20\Omega$
Fall time	t_f *	-	6	-	ns	$R_G=10\Omega$
Total gate charge	Q_g *	-	1.6	2.2	nC	$V_{DD} \doteq 15V, V_{GS}=4.5V$
Gate-source charge	Q_{gs} *	-	0.5	-	nC	$I_D=1.5A$
Gate-drain charge	Q_{gd} *	-	0.3	-	nC	$R_L=10\Omega, R_G=10\Omega$

*Pulsed

<Body diode characteristics (Source-drain)>

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	V_{SD}	-	-	1.2	V	$I_S=0.6A, V_{GS}=0V$

<Di>

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	V_F	-	-	0.49	V	$I_F=0.7A$
Reverse current	I_R	-	-	200	μA	$V_R=20V$

Transistors

●Electrical characteristics curves

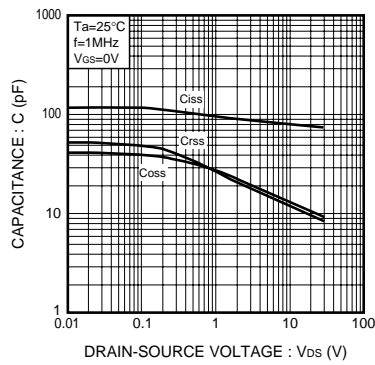


Fig.1 Typical Capacitance vs. Drain-Source Voltage

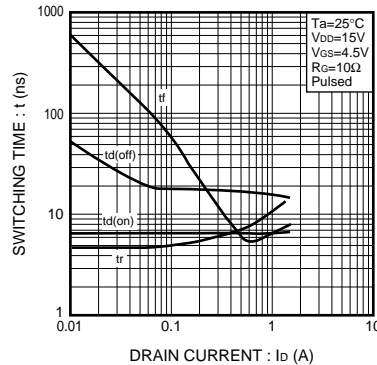


Fig.2 Switching Characteristics

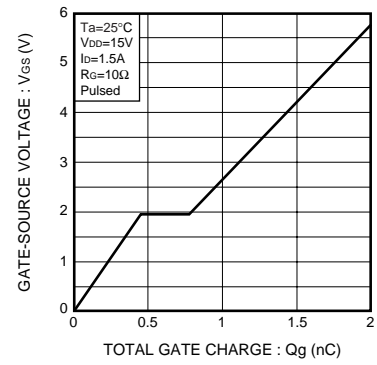


Fig.3 Dynamic Input Characteristics

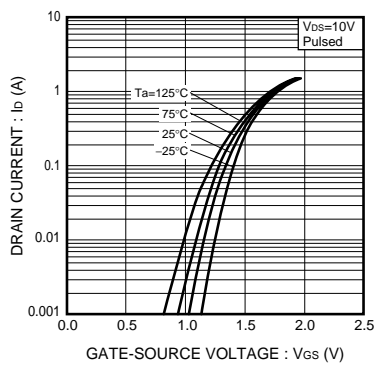


Fig.4 Typical Transfer Characteristics

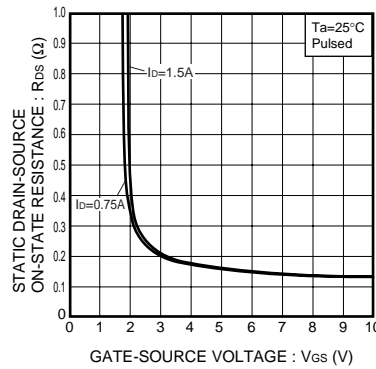


Fig.5 Static Drain-Source On-State Resistance vs. Gate source Voltage

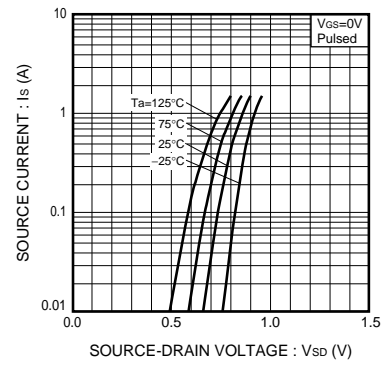


Fig.6 Source Current vs. Source-Drain Voltage

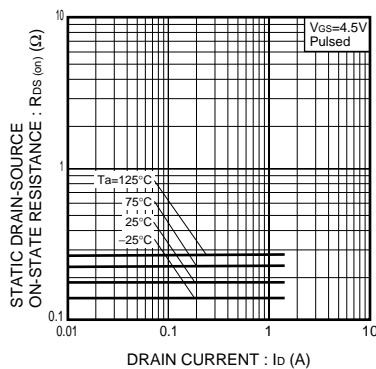


Fig.7 Static Drain-Source On-State Resistance vs. Drain Current (I)

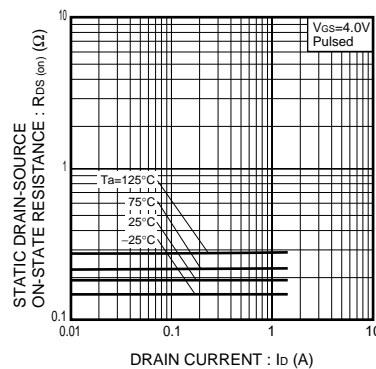


Fig.8 Static Drain-Source On-State Resistance vs. Drain Current (II)

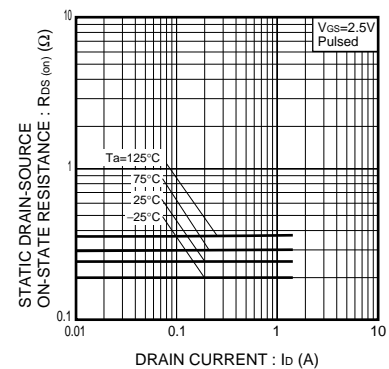


Fig.9 Static Drain-Source On-State Resistance vs. Drain Current (III)

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