

Transistors

N-ch

●Electrical characteristics (Ta=25°C)

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	mΩ	I _D = 1.5A, V _{GS} = 4.5V
		–	180	250	mΩ	I _D = 1.5A, V _{GS} = 4V
		–	240	340	mΩ	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}	–	13	–	pF	V _{GS} =0V
Reverse transfer capacitance	C _{rss}	–	12	–	pF	f=1MHz
Turn-on delay time	t _{d(on)} *	–	7	–	ns	V _{DD} ≐ 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 = 20Ω
Fall time	t _f *	–	6	–	ns	R _G =10Ω
Total gate charge	Q _g *	–	1.6	2.2	nC	V _{DD} ≐ 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 = 10Ω, R _G = 10Ω

*Pulsed

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	V _{SD}	–	–	1.2	V	I _S = 0.6A, V _{GS} =0V

Transistors

P-ch

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Gate-source leakage	I_{GSS}	–	–	10	μA	$V_{GS} = -12V, V_{DS} = 0V$
Drain-source breakdown voltage	$V_{(BR)DSS}$	-20	–	–	V	$I_D = -1mA, V_{GS} = 0V$
Zero gate voltage drain current	I_{DSS}	–	–	-1	μA	$V_{DS} = -20V, V_{GS} = 0V$
Gate threshold voltage	$V_{GS(th)}$	-0.7	–	-2.0	V	$V_{DS} = -10V, I_D = -1mA$
Static drain-source on-state resistance	$R_{DS(on)}$ *	–	280	390	m Ω	$I_D = -1A, V_{GS} = -4.5V$
		–	310	430	m Ω	$I_D = -1A, V_{GS} = -4V$
		–	570	800	m Ω	$I_D = -0.5A, V_{GS} = -2.5V$
Forward transfer admittance	$ Y_{fs} $ *	0.7	–	–	S	$V_{DS} = -10V, I_D = -0.5A$
Input capacitance	C_{iss}	–	150	–	pF	$V_{DS} = -10V$
Output capacitance	C_{oss}	–	20	–	pF	$V_{GS} = 0V$
Reverse transfer capacitance	C_{rss}	–	20	–	pF	$f = 1MHz$
Turn-on delay time	$t_{d(on)}$ *	–	9	–	ns	$V_{DD} = -15V$
Rise time	t_r *	–	8	–	ns	$I_D = -0.5A$
Turn-off delay time	$t_{d(off)}$ *	–	25	–	ns	$V_{GS} = -4.5V$
Fall time	t_f *	–	10	–	ns	$R_L = 30\Omega$
Total gate charge	Q_g *	–	2.1	–	nC	$V_{DD} = -15V, V_{GS} = -4.5V$
Gate-source charge	Q_{gs} *	–	0.5	–	nC	$I_D = -1A$
Gate-drain charge	Q_{gd} *	–	0.5	–	nC	$R_L = 15\Omega, R_G = 10\Omega$

*Pulsed

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	V_{SD}	–	–	-1.2	V	$I_S = -0.4A, V_{GS} = 0V$

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