Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

4V Drive Pch MOSFET

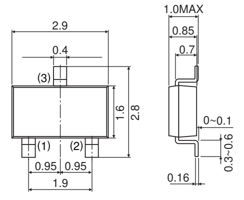
RSR020P03

●Structure
Silicon P-channel MOSFET

●Features
1) Low On-resistance
2) Space saving−small surface mount package (TSMT3)
3) 4V drive

●Applications
Switching

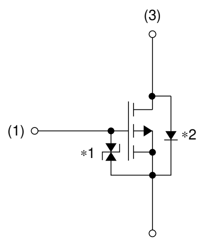
●Dimensions (Unit : mm)



●Packaging specifications

Type	Package	Taping
	Code	TL
	Basic ordering unit (pieces)	3000
RSR020P03		○

●Inner circuit



●Absolute maximum ratings (Ta=25°C)

Parameter		Symbol	Limits	Unit
Drain-source voltage		V_{DSS}	−30	V
Gate-source voltage		V_{GSS}	±20	V
Drain current	Continuous	I_D	±2	A
	Pulsed	I_{DP} ∗1	±8	A
Source current (Body diode)	Continuous	I_S	−0.8	A
	Pulsed	I_{SP} ∗1	−8	A
Total power dissipation		P_D ∗2	1	W
Channel temperature		Tch	150	°C
Range of storage temperature		Tstg	−55 to +150	°C

∗1 Pw≤10μs, Duty cycle≤1%
∗2 Mounted on a ceramic board

●Thermal resistance

Parameter	Symbol	Limits	Unit
Channel to ambient	Rth(ch-a) ∗	125	°C/W

∗ Mounted on a ceramic board

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	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}	–	–	–1	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	$R_{DS\,(on)}$*	–	85	120	mΩ	I_D= –2A, V_{GS}= –10V
		–	135	190	mΩ	I_D= –1A, V_{GS}= –4.5V
		–	150	210	mΩ	I_D= –1A, V_{GS}= –4V
Forward transfer admittance	$\lvert Y_{fs} \rvert$ *	1.4	–	–	S	V_{DS}= –10V, I_D= –1A
Input capacitance	C_{iss}	–	370	–	pF	V_{DS}= –10V
Output capacitance	C_{oss}	–	80	–	pF	V_{GS}=0V
Reverse transfer capacitance	C_{rss}	–	55	–	pF	f=1MHz
Turn-on delay time	$t_{d\,(on)}$ *	–	8	–	ns	V_{DD}≒ –15V
Rise time	t_r *	–	10	–	ns	I_D= –1A
Turn-off delay time	$t_{d\,(off)}$ *	–	35	–	ns	V_{GS}= – 10V R_L=15Ω
Fall time	t_f *	–	11	–	ns	R_G=10Ω
Total gate charge	Q_g *	–	4.3	–	nC	V_{DD}≒–15V V_{GS}=–5V
Gate-source charge	Q_{gs} *	–	1.4	–	nC	I_D=–2A
Gate-drain charge	Q_{gd} *	–	1.5	–	nC	R_L=7.5Ω 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= –0.8A, V_{GS}=0V

*Pulsed

●Electrical characteristics curves

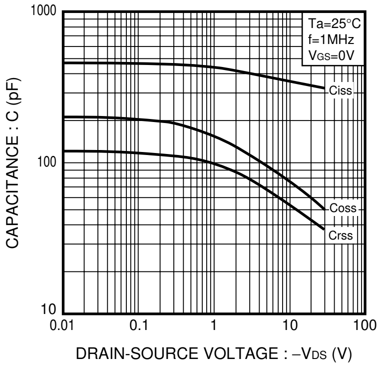


Fig.1 Typical Capacitance vs. Drain-Source Voltage

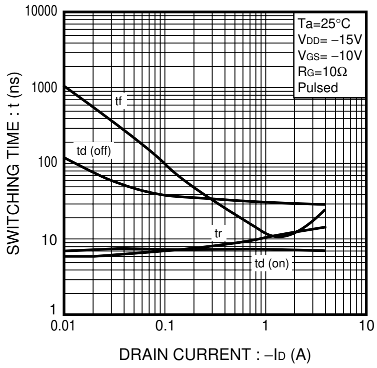


Fig.2 Switching Characteristics

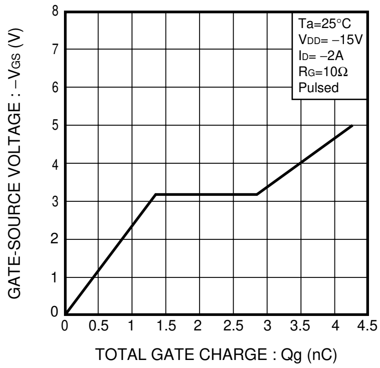


Fig.3 Dynamic Input Characteristics

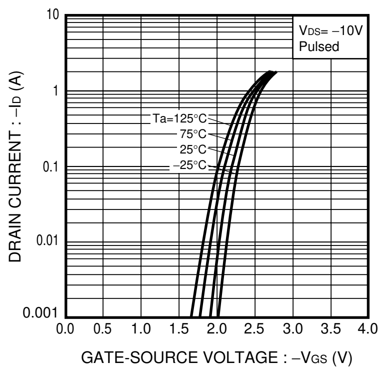


Fig.4 Typical Transfer Characteristics

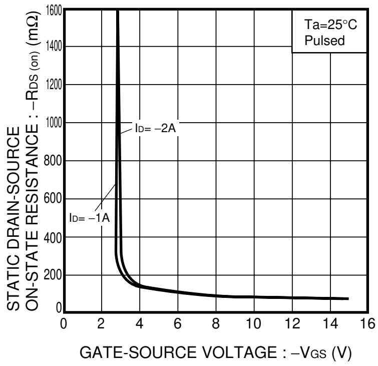


Fig.5 Static Drain-Source On-State Resistance vs. Gate-Source Voltage

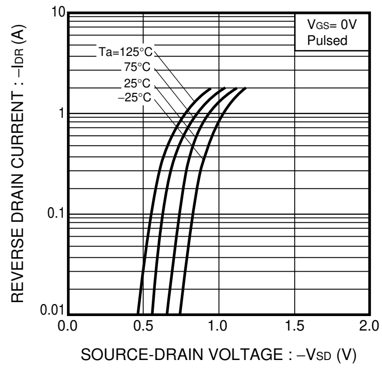


Fig.6 Reverse Drain Current vs. Source-Drain Voltage

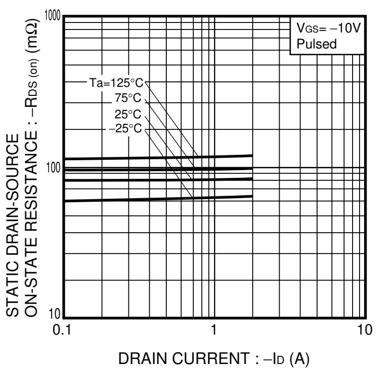


Fig.7 Static Drain-Source On-State Resistance vs. Drain current (I)

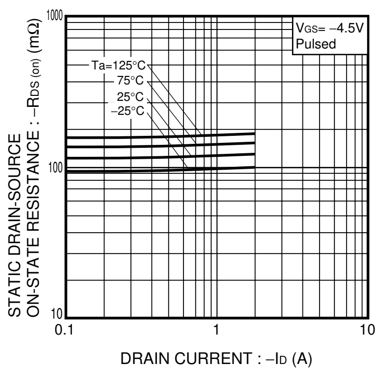


Fig.8 Static Drain-Source On-State Resistance vs. Drain current (II)

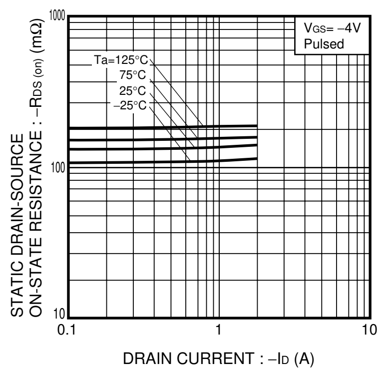


Fig.9 Static Drain-Source On-State Resistance vs. Drain current (III)

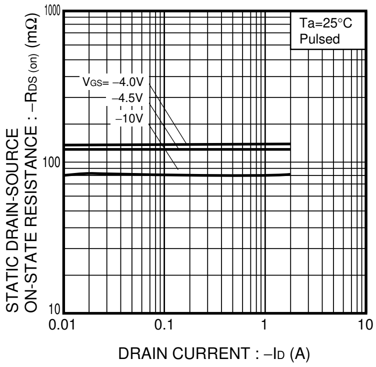


Fig.10 Static Drain-Source On-State Resistance vs. Drain current (Ⅳ)

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