

Transistors

4V Drive Pch MOS FET

RSR015P03

●Structure

Silicon P-channel MOS FET

●Features

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

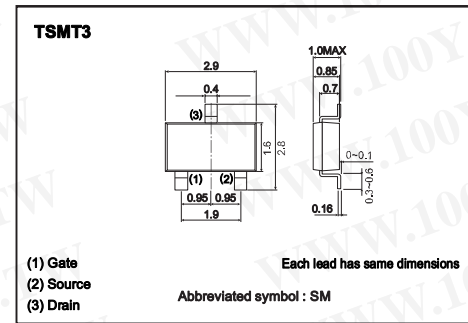
●Applications

Switching

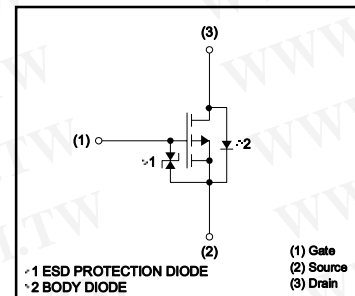
●Packaging specifications

Type	Package	Taping
	Code	TL
	Basic ordering unit (pieces)	3000
RSR015P03		○

●External dimensions (Unit : mm)



●Inner circuit



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit	
Drain-source voltage	V _{DS}	-30	V	
Gate-source voltage	V _{GS}	±20	V	
Drain current	Continuous	I _D	±1.5	A
	Pulsed	I _{DP} ^{*1}	±6	A
Source current (Body diode)	Continuous	I _S	-0.5	A
	Pulsed	I _{SP} ^{*1}	-6	A
Total power dissipation	P _D ^{*2}	1	W	
Channel temperature	T _{ch}	150	°C	
Range of storage temperature	T _{stg}	-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	R _{th(ch-a)} [†]	125	°C/W

† Mounted on a ceramic board

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●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)}	-	170	235	mΩ	I _D =-1.5A, V _{GS} =-10V
		-	270	375	mΩ	I _D =-0.8A, V _{GS} =-4.5V
		-	320	440	mΩ	I _D =-0.8A, V _{GS} =-4V
Forward transfer admittance	Y _{fs}	0.9	-	-	S	V _{DS} =-10V, I _D =-0.8A
Input capacitance	C _{iss}	-	190	-	pF	V _{DS} =-10V
Output capacitance	C _{oss}	-	45	-	pF	V _{GS} =0V
Reverse transfer capacitance	C _{rss}	-	30	-	pF	f=1MHz
Turn-on delay time	t _{d(on)}	-	6	-	ns	V _{DD} =-15V I _D =-0.8A
Rise time	t _r	-	8	-	ns	V _{GS} =-10V
Turn-off delay time	t _{d(off)}	-	22	-	ns	R _L =19Ω
Fall time	t _f	-	6	-	ns	R _G =10Ω
Total gate charge	Q _g	-	2.6	-	nC	V _{DD} =-15V V _{GS} =-5V
Gate-source charge	Q _{gs}	-	1.0	-	nC	I _D =-1.5A
Gate-drain charge	Q _{gd}	-	0.7	-	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 =-0.5A, V _{GS} =0V

Appendix

Notes

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