

Transistors

4V Drive Pch MOSFET

RSU002P03

●Structure

Silicon P-channel MOSFET

●Features

- 1) Low On-resistance
- 2) 4V drive

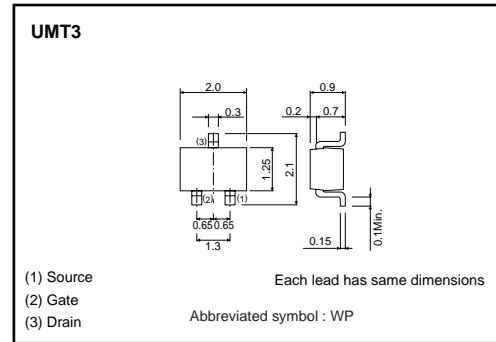
●Applications

Switching

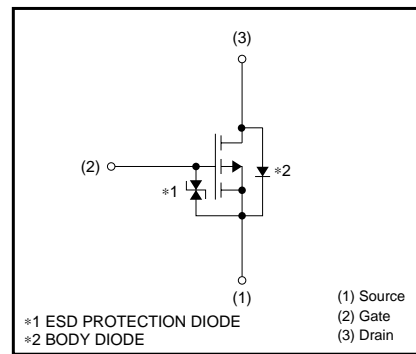
●Packaging specifications

Type	Package	Taping
	Code	T106
	Basic ordering unit (pieces)	3000
RSU002P03		○

●Dimensions (Unit : mm)



●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	±0.25
	Pulsed	I _{DP} *1	±0.5
Total power dissipation	P _D *2	0.2	W
Channel temperature	T _{ch}	150	°C
Range of storage temperature	T _{stg}	-55 to +150	°C

*1 Pw≤10μs, Duty cycle≤1%

*2 Each terminal mounted on a recommended land

●Thermal resistance

Parameter	Symbol	Limits	Unit
Channel to ambient	R _{th(ch-a)} *	625	°C/W

* Each terminal mounted on a recommended land

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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)} *	–	0.9	1.4	Ω	I _D = –0.25A, V _{GS} = –10V
		–	1.4	2.1	Ω	I _D = –0.15A, V _{GS} = –4.5V
		–	1.6	2.4	Ω	I _D = –0.15A, V _{GS} = –4V
Forward transfer admittance	Y _{fs} *	0.2	–	–	S	V _{DS} = –10V, I _D = –0.15A
Input capacitance	C _{iss}	–	30	–	pF	V _{DS} = –10V
Output capacitance	C _{oss}	–	4	–	pF	V _{GS} =0V
Reverse transfer capacitance	C _{rss}	–	5	–	pF	f=1MHz
Turn-on delay time	t _{d (on)} *	–	8	–	ns	V _{DD} ≐ –15V
Rise time	t _r *	–	5	–	ns	I _D = –0.15A
Turn-off delay time	t _{d (off)} *	–	30	–	ns	V _{GS} = –10V
Fall time	t _f *	–	40	–	ns	R _L =100Ω 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 = –0.1A, V _{GS} =0V

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●Electrical characteristics curves

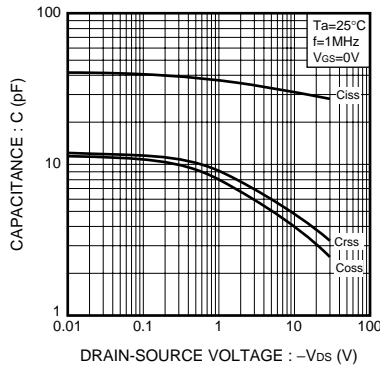


Fig.1 Typical Capacitance vs. Drain-Source Voltage

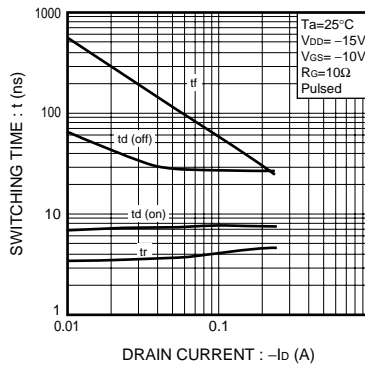


Fig.2 Switching Characteristics

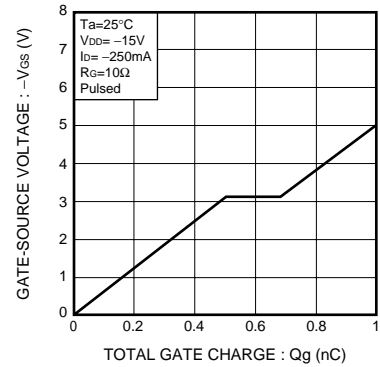


Fig.3 Dynamic Input Characteristics

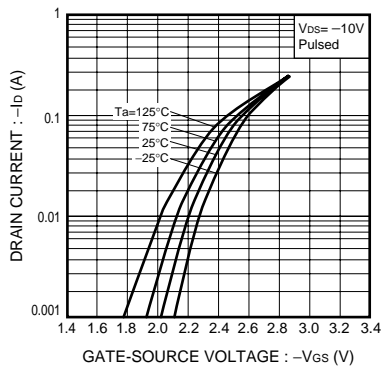


Fig.4 Typical Transfer Characteristics

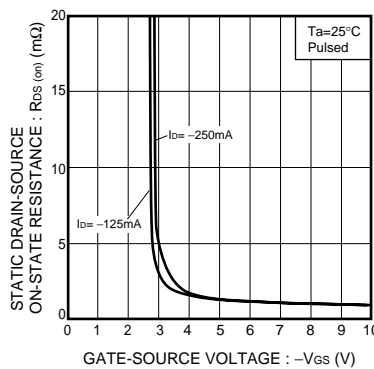


Fig.5 Static Drain-Source On-State Resistance vs. Gate-Source Voltage

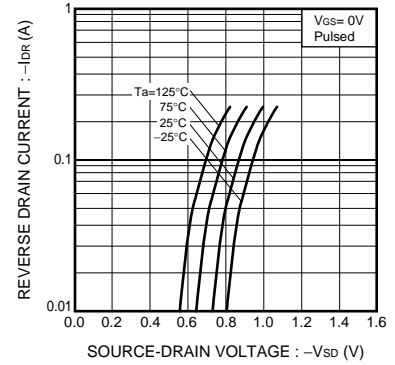


Fig.6 Reverse Drain Current vs. Source-Drain Voltage

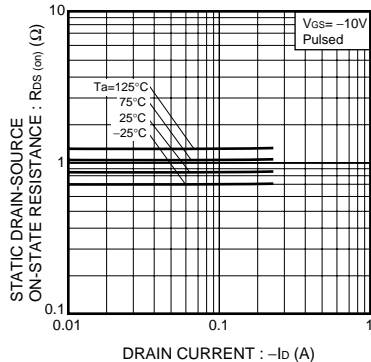


Fig.7 Static Drain-Source On-State Resistance vs. Drain current (I)

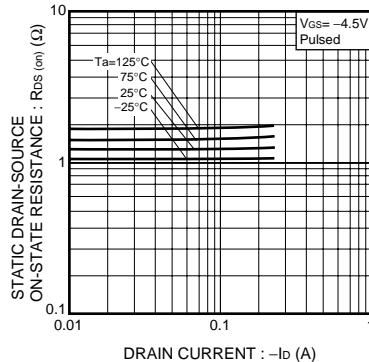


Fig.8 Static Drain-Source On-State Resistance vs. Drain current (II)

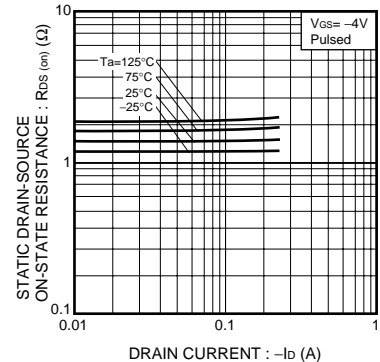


Fig.9 Static Drain-Source On-State Resistance vs. Drain current (III)

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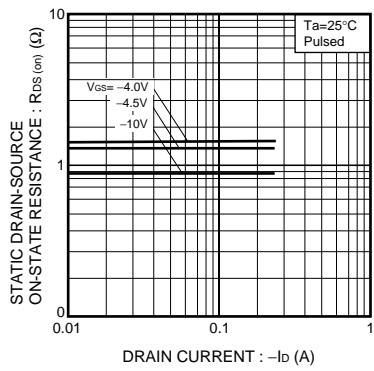


Fig.10 Static Drain-Source On-State Resistance vs. Drain current (IV)

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