

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number:	RSQ035P03TR
Manufacturer:	Rohm Semiconductor
Package:	Please confirm with sales
Availability:	Please confirm with sales

Product Page:

<https://antrexco.com/product/details/rohm-semiconductor/rsq035p03tr.html>

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Contact Information

Email: info@antrexco.com

WhatsApp: +86-186-8066-5326

Website: <https://antrexco.com>

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Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

4V Drive Pch MOS FET

RSQ035P03

●Structure

Silicon P-channel MOSFET

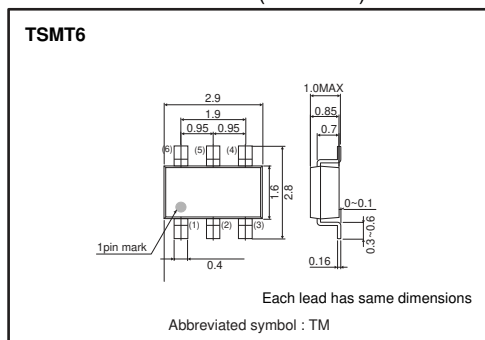
●Features

- 1) Low On-resistance.(65mΩ at 4.5V)
- 2) High Power Package.
- 3) High speed switching.
- 4) Low voltage drive. (4V)

●Applications

DC-DC converter

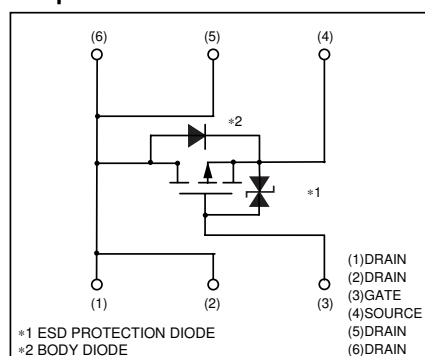
●External dimensions (Unit : mm)



●Packaging specifications

Type	Package	Taping
	Code	TR
	Basic ordering unit (pieces)	3000
RSQ035P03		○

●Equivalent 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	±3.5	A
	Pulsed	I_{DP} *1	±14	A
Source current (Body diode)	Continuous	I_S	-1	A
	Pulsed	I_{SP} *1	-4	A
Total power dissipation		P_D *2	1.25	W
Channel temperature		T_{ch}	150	°C
Range of Storage temperature		T_{stg}	-55 to +150	°C

*1 $P_w \leq 10 \mu s$, Duty cycle ≤ 1%

*2 Mounted on a ceramic board

●Thermal resistance

Parameter	Symbol	Limits	Unit
Channel to ambient	$R_{th(ch-a)}$ *	100	°C / W

* Mounted on a ceramic board.

Transistor

●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)} *	—	45	65	mΩ	I _D =−3.5A, V _{GS} =−10V
		—	65	90	mΩ	I _D =−3.5A, V _{GS} =−4.5V
		—	70	95	mΩ	I _D =−1.75A, V _{GS} =−4.0V
Foward transfer admittance	Y _{fs} *	2.0	—	—	S	V _{DS} =−10V, I _D =−1.75A
Input capacitance	C _{iss}	—	780	—	pF	V _{DS} =−10V, V _{GS} =0V f=1MHz
Output capacitance	C _{oss}	—	180	—	pF	
Reverse transfer capacitance	C _{rss}	—	130	—	pF	
Turn-on delay time	t _{d(on)} *	—	15	—	ns	I _D =−1.75A V _{DD} =−15V V _{GS} =−10V R _L =8.6Ω R _G =10Ω
Rise time	t _r *	—	35	—	ns	
Turn-off delay time	t _{d(off)} *	—	45	—	ns	
Fall time	t _f *	—	25	—	ns	
Total gate charge	Q _g	—	9.2	—	nC	V _{DD} =−15V V _{GS} =−5V I _D =−3.5A
Gate-source charge	Q _{gs}	—	2.2	—	nC	
Gate-drain charge	Q _{gd}	—	3.4	—	nC	

*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 =−1A, V _{GS} =0V

Transistor

●Electrical characteristic curves

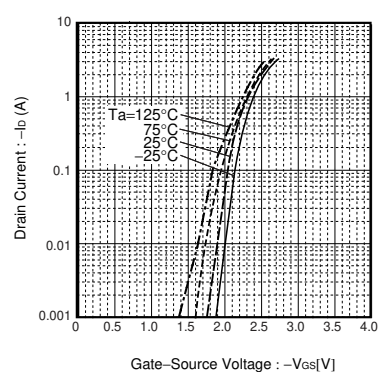


Fig.1 Typical Transfer Characteristics

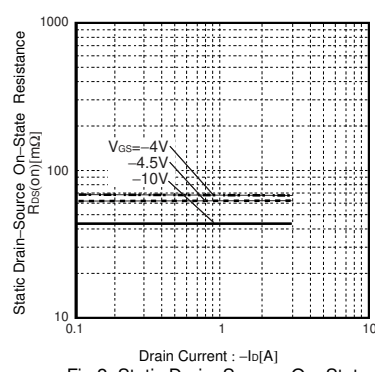


Fig.2 Static Drain-Source On-State Resistance vs. Drain Current

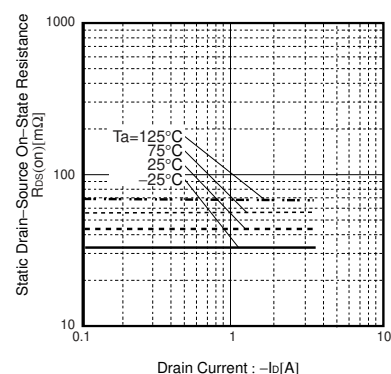


Fig.3 Static Drain-Source On-State Resistance vs. Drain Current

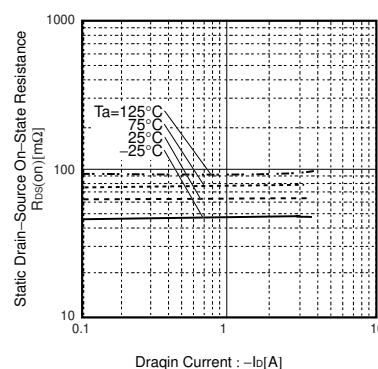


Fig.4 Static Drain-Source On-State Resistance vs. Drain Current

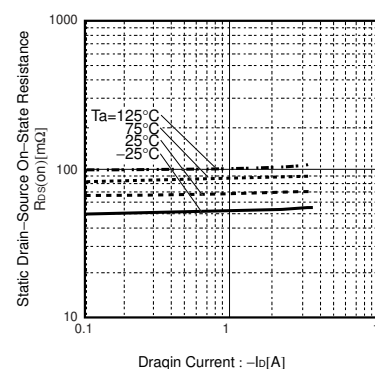


Fig.5 Static Drain-Source On-State Resistance vs. Drain Current

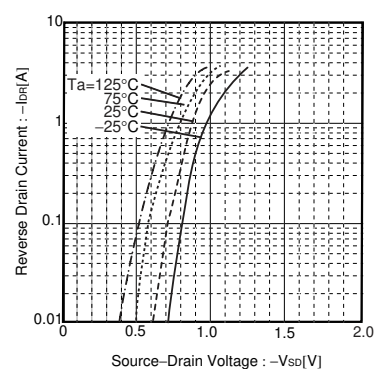


Fig.6 Reverse Drain Current Source-Drain Current

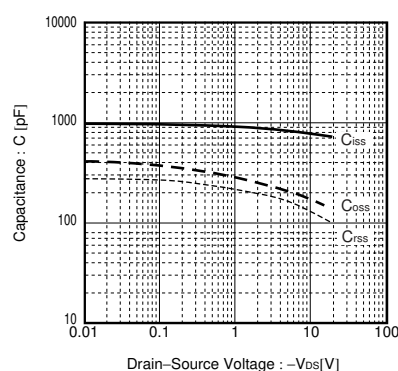


Fig.7 Typical Capacitance vs. Drain-Source Voltage

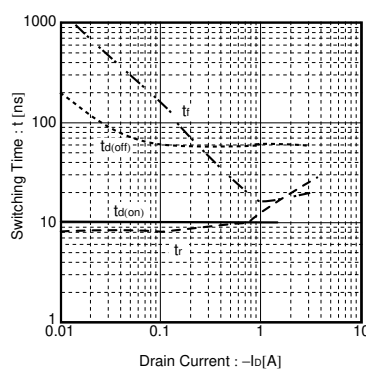


Fig.8 Switching Characteristics

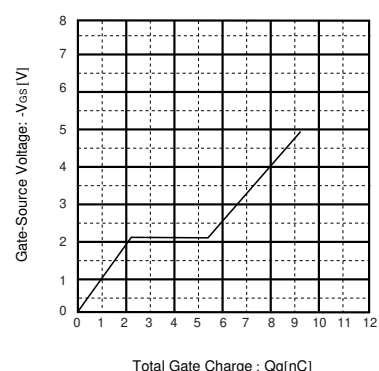


Fig.9 Dynamic Input Characteristics

Transistor

●Switching characteristics measurement circuits

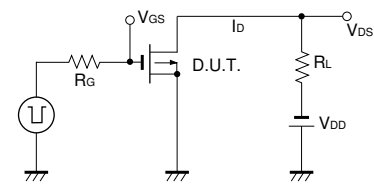


Fig.10 Switching Time Test Circuit

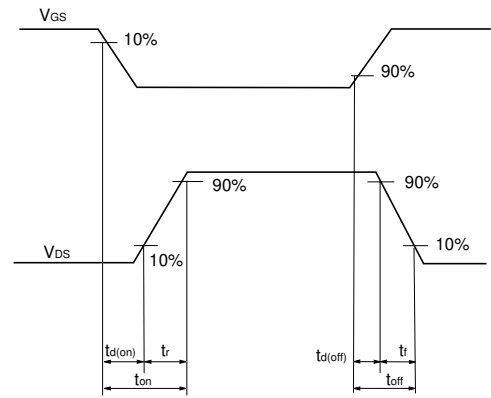


Fig.11 Switching Time Waveforms

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