

2.5V Drive Nch MOSFET

RSE002N06

Structure

Silicon N-channel MOSFET

Features

- 1) High speed switing.
- 2) Small package(EMT3).
- 3) Low voltage drive(2.5V drive).

Application

Switching

Packaging specifications

	Package	Taping
Туре	Code	TL
	Basic ordering unit (pieces)	3000
RSE002N06		0

• Absolute maximum ratings (Ta = 25°C)

Parameter		Symbol	Limits	Unit
Drain-source voltage		V _{DSS}	60	V
Gate-source voltage		V _{GSS}	±20	V
Drain current	Continuous	Ι _D	±250	mA
Drain current	Pulsed	I _{DP} *1	±1	А
Source current	Continuous	ls	125	mA
(Body Diode)	Pulsed	I _{SP} *1	1	А
Power dissipation		P _D *2	150	mW
Channel temperature	Tch	Tch 150 °C		
Range of storage ten	inge of storage temperature		-55 to +150	°C

*1 Pw≤10µs, Duty cycle≤1%

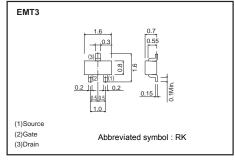
*2 Each terminal mounted on a recommended land.

Thermal resistance

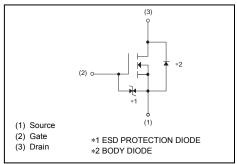
Parameter	Symbol	Limits	Unit
Channel to ambient	Rth (ch-a)*	833	°C/W

* Each terminal mounted on a recommended land.

• Dimensions (Unit : mm)



• Inner circuit



•Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Gate-source leakage	I _{GSS}	-	-	±10	μA	V _{GS} =±20V, V _{DS} =0V
Drain-source breakdown voltage	V _{(BR)DSS}	60	-	-	V	I _D =1mA, V _{GS} =0V
Zero gate voltage drain current	I _{DSS}	-	-	1	μA	V _{DS} =60V, V _{GS} =0V
Gate threshold voltage	V _{GS (th)}	1.0	-	2.3	V	V _{DS} =10V, I _D =1mA
		-	1.7	2.4		I _D =250mA, V _{GS} =10V
Static drain-source on-state	P*	-	2.1	3.0		I _D =250mA, V _{GS} =4.5V
resistance	R _{DS (on)}	-	2.3	3.2	Ω	I _D =250mA, V _{GS} =4.0V
		-	3.0	12.0		I _D =10mA, V _{GS} =2.5V
Forward transfer admittance	I Y _{fs} I*	0.25	-	-	S	I _D =250mA, V _{DS} =10V
Input capacitance	C _{iss}	-	15	-	pF	V _{DS} =25V
Output capacitance	C _{oss}	-	4.5	-	pF	V _{GS} =0V
Reverse transfer capacitance	C _{rss}	-	2.0	-	pF	f=1MHz
Turn-on delay time	t _{d(on)} *	-	3.5	-	ns	I _D =100mA, V _{DD} ≒ 30V
Rise time	t _r *	-	5	-	ns	V _{GS} =10V
Turn-off delay time	t _{d(off)} *	-	18	-	ns	R _L ≒300Ω
Fall time	t _f *	-	28	-	ns	R _G =10Ω

*Pulsed

•Body diode characteristics (Source-Drain) (Ta = 25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Forward voltage	V _{SD} *	-	-	1.2	V	I _s =250mA, V _{GS} =0V

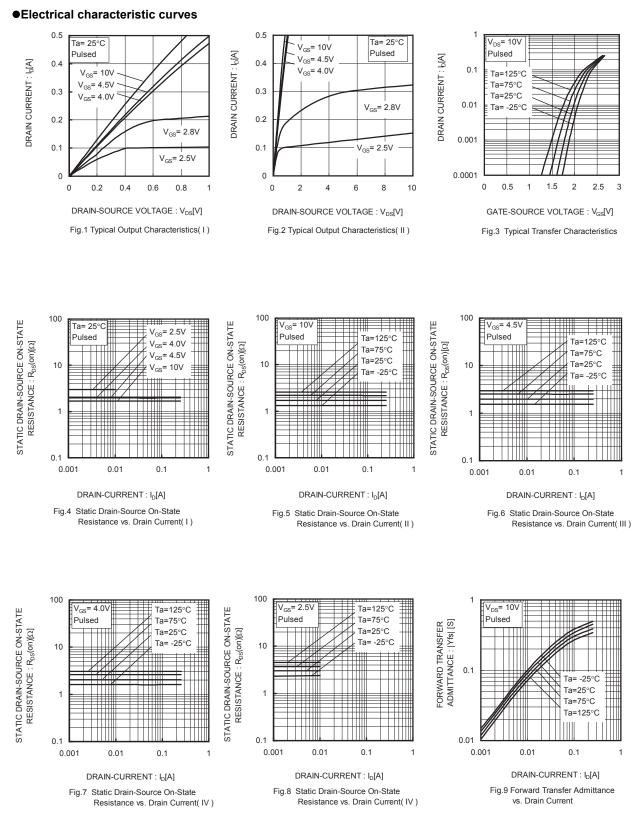
*Pulsed

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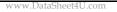
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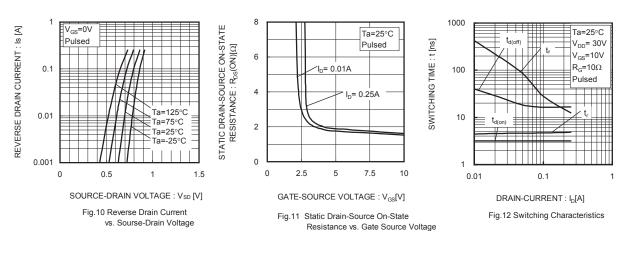
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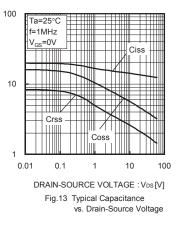
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Data Sheet





CAPACITANCE : C [pF]



Measurement circuits

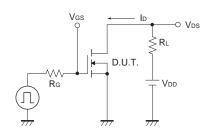


Fig.1-1 Switching time measurement circuit

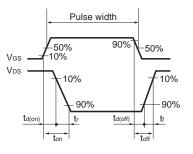


Fig.1-2 Switching waveforms

Notice

This product might cause chip aging and breakdown under the large electrified environment. Please consider to design ESD protection circuit.

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