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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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

2.5V Drive Nch MOSFET

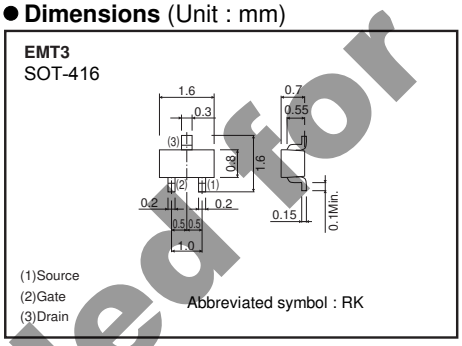
RSE002N06

● Structure
Silicon N-channel MOSFET

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

● Application
Switching

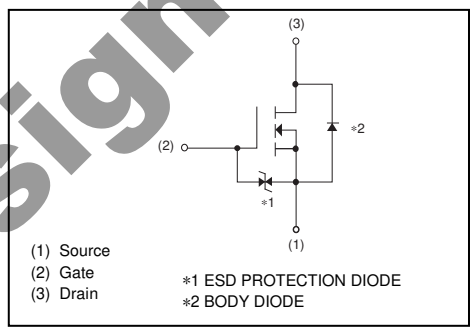
● Dimensions (Unit : mm)



● Packaging specifications

Type	Package	Taping
	Code	TL
	Basic ordering unit (pieces)	3000
RSE002N06		O

● Inner circuit



● 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	I_D	±250	mA
	Pulsed	I_{DP} *1	±1	A
Source current (Body Diode)	Continuous	I_S	125	mA
	Pulsed	I_{SP} *1	1	A
Power dissipation		P_D *2	150	mW
Channel temperature		Tch	150	°C
Range of storage temperature		Tstg	−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.

●**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	$V_{(BR)DSS}$	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
Static drain-source on-state resistance	$R_{DS\ (on)}$*	-	1.7	2.4	Ω	I_D=250mA, V_{GS}=10V
		-	2.1	3.0		I_D=250mA, V_{GS}=4.5V
		-	2.3	3.2		I_D=250mA, V_{GS}=4.0V
		-	3.0	12.0		I_D=10mA, V_{GS}=2.5V
Forward transfer admittance	$\|Y_{fs}\|$*	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.	Typ.	Max.	Unit	Conditions
Forward voltage	V_{SD}*	-	-	1.2	V	I_S=250mA, V_{GS}=0V

*Pulsed

●Electrical characteristic curves

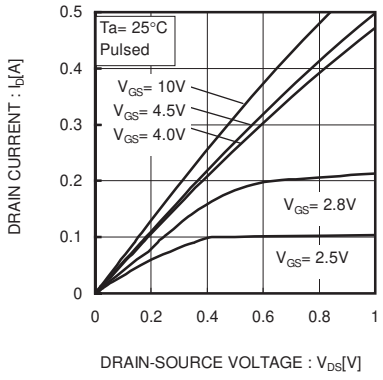


Fig.1 Typical Output Characteristics(I)

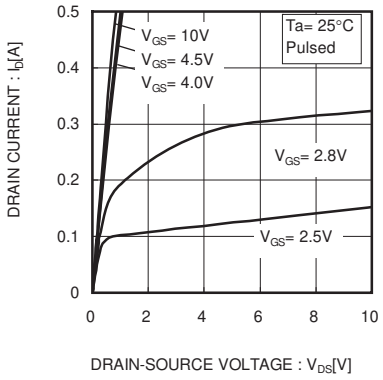


Fig.2 Typical Output Characteristics(II)

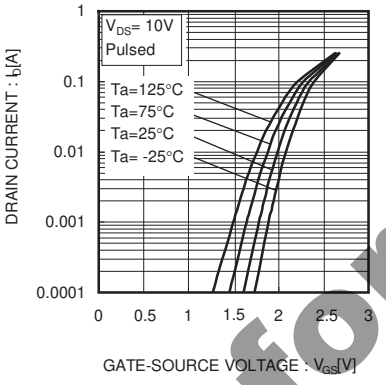


Fig.3 Typical Transfer Characteristics

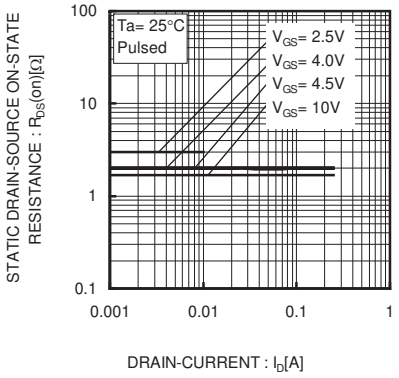


Fig.4 Static Drain-Source On-State Resistance vs. Drain Current(I)

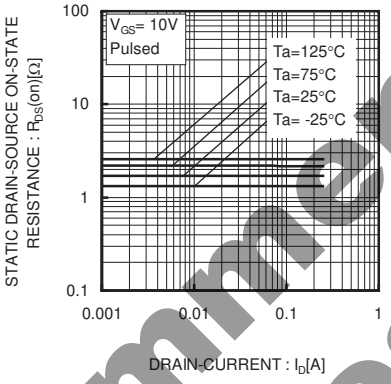


Fig.5 Static Drain-Source On-State Resistance vs. Drain Current(II)

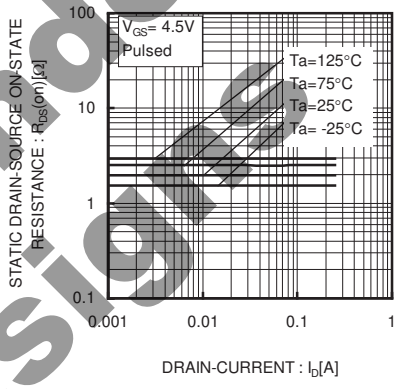


Fig.6 Static Drain-Source On-State Resistance vs. Drain Current(III)

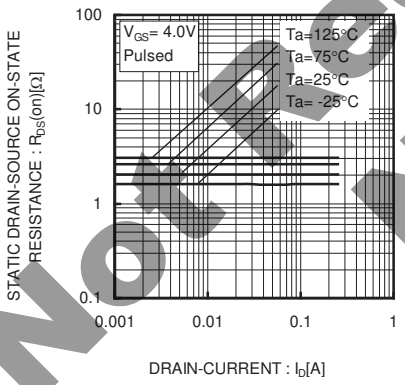


Fig.7 Static Drain-Source On-State Resistance vs. Drain Current(IV)

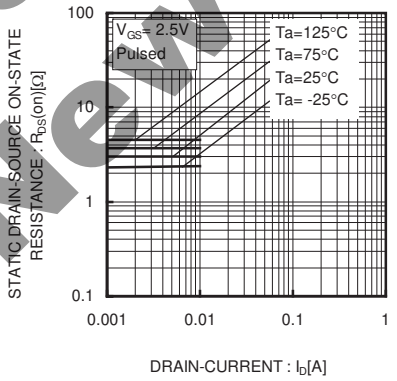


Fig.8 Static Drain-Source On-State Resistance vs. Drain Current(IV)

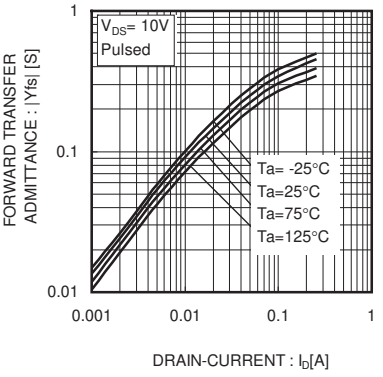


Fig.9 Forward Transfer Admittance vs. Drain Current

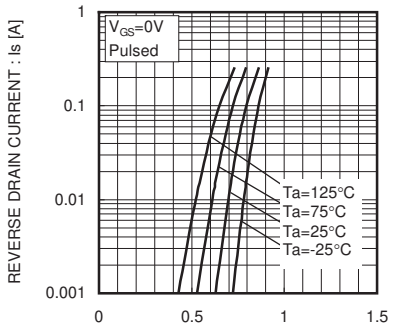


Fig.10 Reverse Drain Current vs. Sourse-Drain Voltage

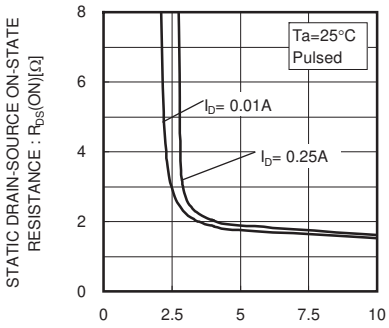


Fig.11 Static Drain-Source On-State Resistance vs. Gate Source Voltage

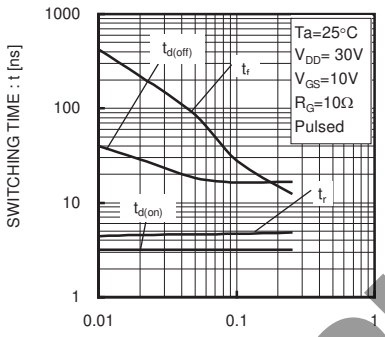


Fig.12 Switching Characteristics

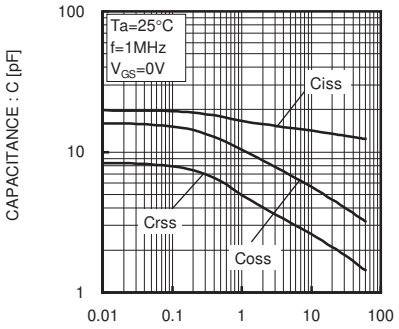


Fig.13 Typical Capacitance vs. Drain-Source Voltage

●**Measurement circuits**

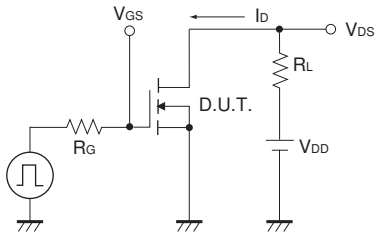


Fig.1-1 Switching time measurement circuit

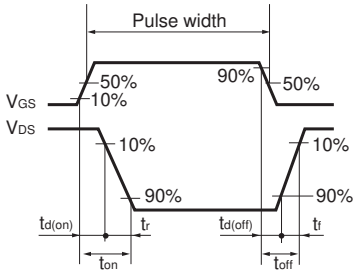


Fig.1-2 Switching waveforms

●**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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