Transistors

4V Drive Nch MOS FET **RHK005N03**

Structure

Silicon N-channel MOS FET

Features

1) Low On-resistance.

2) High speed switching.

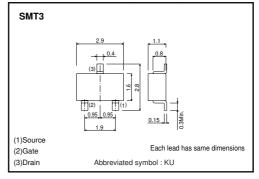
Applications

Switching

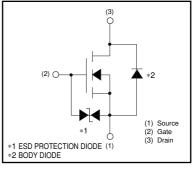
Packaging specifications and hre

	Package	Taping		
Туре	Code	T146		
	Basic ordering unit (pieces)	3000		
RHK005N03	0			

•External dimensions (Unit : mm)



Inner circuit



●Absolute maximum ratings (Ta=25°C)

Parameter		Symbol	Limits	Unit
Drain-source voltage		VDSS	30	V
Gate-source voltage		V _{GSS}	±20	V
Drain current	Continuous	ID	±500	mA
	Pulsed	IDP ^{*1}	±2.0	А
Total power dissipation		P _D *2	200	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)*	625	°C/W

* Each terminal mounted on a recommended land

Transistors

•Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions	
Gate-source leakage	lgss	-	-	±10	μA	$V_{GS}=\pm 20V, V_{DS}=0V$	
Drain-source breakdown voltage	V(BR) DSS	30	-	-	V	I _D = 1mA, V _{GS} =0V	
Zero gate voltage drain current	IDSS	-	-	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	RDS (on)*	-	350	550	mΩ	I _D = 500mA, V _{GS} = 10V	
		-	510	720	mΩ	I _D = 500mA, V _{GS} = 4.5V	
		-	600	840	mΩ	ID= 500mA, VGS= 4V	
Forward transfer admittance	Yfs *	0.5	-	-	S	VDS= 10V, ID= 500mA	
Input capacitance	Ciss	-	45	-	рF	V _{DS} = 10V	
Output capacitance	Coss	-	20	-	рF	V _{GS} =0V	
Reverse transfer capacitance	Crss	-	10	-	рF	f=1MHz	
Turn-on delay time	td (on) *	-	10	-	ns	$V_{DD} = 15V$ $I_{D} = 250mA$ $V_{GS} = 10V$ $R_{L} = 60\Omega$ $R_{G} = 10\Omega$	
Rise time	tr *	-	10	-	ns		
Turn-off delay time	td (off) *	-	15	-	ns		
Fall time	t _f *	_	30	-	ns		

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

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Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Forward voltage	Vsd	I	-	1.2	V	I _S = 0.16A, V _{GS} =0V

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