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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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## Transistors

## 2.5V Drive Nch MOS FET

## RJK005N03

## ●Structure

Silicon N-channel MOS FET

## ●Features

- 1) Low On-resistance.
- 2) Low voltage drive (2.5V drive).

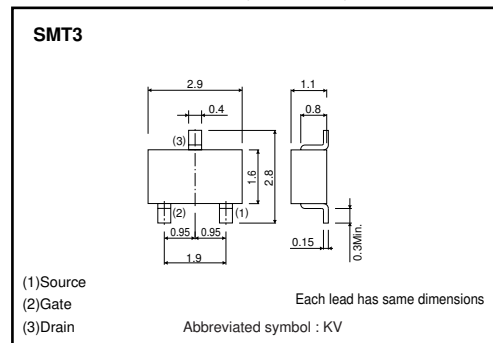
## ●Applications

Switching

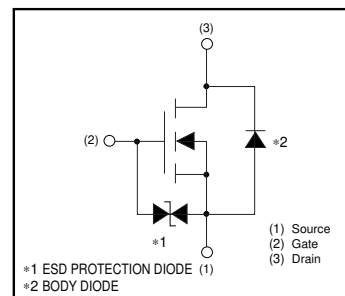
## ●Packaging specifications and hFE

Type	Package	Taping
	Code	T146
	Basic ordering unit (pieces)	3000
RJK005N03		○

## ●External dimensions (Unit : mm)



## ●Inner circuit



## ●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Drain-source voltage	$V_{DS}$	30	V
Gate-source voltage	$V_{GS}$	$\pm 12$	V
Drain current	Continuous	$I_D$	$\pm 500$ mA
	Pulsed	$I_{DP}$ *1	$\pm 2.0$ A
Source current (Body Diode)	Continuous	$I_S$	200 mA
	Pulsed	$I_{SP}$ *1	800 mA
Total power dissipation	$P_D$ *2	200	mW
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  $\leq 1\%$ 

\*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

## Transistors

## ●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Gate-source leakage	$I_{GSS}$	–	–	±10	μA	$V_{GS}=\pm 12V, V_{DS}=0V$
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	$V_{GS(th)}$	0.8	–	1.5	V	$V_{DS}=10V, I_D=1mA$
Static drain-source on-state resistance	$R_{DS(on)}$ *	–	400	580	mΩ	$I_D=500mA, V_{GS}=4.5V$
		–	420	600	mΩ	$I_D=500mA, V_{GS}=4V$
		–	650	940	mΩ	$I_D=500mA, V_{GS}=2.5V$
Forward transfer admittance	$ Y_{fs} $ *	0.5	–	–	S	$V_{DS}=10V, I_D=500mA$
Input capacitance	$C_{iss}$	–	60	–	pF	$V_{DS}=10V$
Output capacitance	$C_{oss}$	–	24	–	pF	$V_{GS}=0V$
Reverse transfer capacitance	$C_{rss}$	–	12	–	pF	$f=1MHz$
Turn-on delay time	$t_{d(on)}$ *	–	9	–	ns	$V_{DD}\doteq 15V$
Rise time	$t_r$ *	–	11	–	ns	$I_D=250mA$
Turn-off delay time	$t_{d(off)}$ *	–	16	–	ns	$V_{GS}=4V$
Fall time	$t_f$ *	–	31	–	ns	$R_L=60\Omega$
Total gate charge	$Q_g$ *	–	2.0	4.0	nC	$V_{DD}\doteq 24V$
Gate-source charge	$Q_{gs}$ *	–	0.6	–	nC	$V_{GS}=4V$
Gate-drain charge	$Q_{gd}$ *	–	0.7	–	nC	$I_D=500mA$

\*Pulsed

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	$V_{SD}$ *	–	–	1.2	V	$I_S=500mA, V_{GS}=0V$

\*Pulsed

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