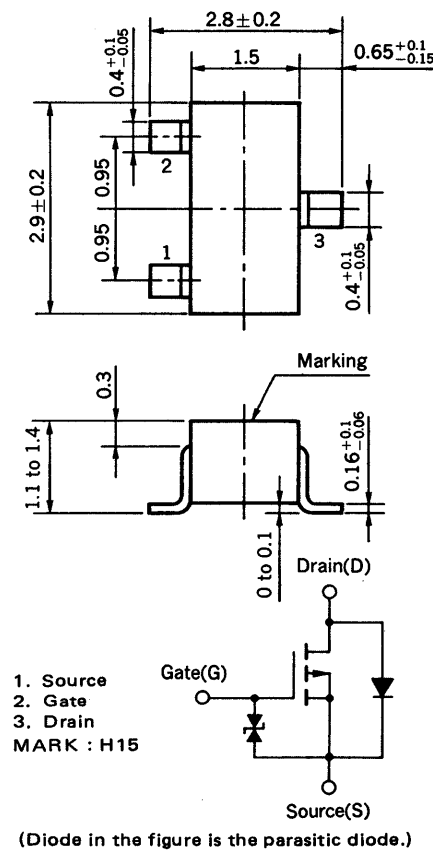


P-CHANNEL MOS FET FOR SWITCHING

2SJ204

PACKAGE DIMENSIONS (Unit : mm)



The 2SJ204, P-channel vertical type MOS FET, is a switching device which can be driven directly by the output of ICs having a 5 V power source.

As the MOS FET has low on-state resistance and excellent switching characteristics, it is suitable for driving actuators such as motors, relays, and solenoids.

FEATURES

- Directly driven by ICs having a 5 V power supply.
- Has low on-state resistance
 $R_{DS(on)} = 13 \Omega \text{ MAX. @ } V_{GS} = -4.0 \text{ V, } I_D = -10 \text{ mA}$
 $R_{DS(on)} = 8 \Omega \text{ MAX. @ } V_{GS} = -10 \text{ V, } I_D = -10 \text{ mA}$
- Complementary to 2SK1582

QUALITY GRADE

Standard

Please refer to "Quality grade on TY Semiconductor Devices" (Document number IEI-1209) published by TY Corporation to know the specification of quality grade on the devices and its recommended applications.

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

PARAMETER	SYMBOL	RATINGS	UNIT	TEST CONDITIONS
Drain to Source Voltage	V_{DSS}	-30	V	$V_{GS} = 0$
Gate to Source Voltage	V_{GSS}	± 20	V	$V_{DS} = 0$
Drain Current	$I_D(DC)$	± 200	mA	
Drain Current	$I_D(\text{pulse})$	± 400	mA	$PW \leq 10 \text{ ms, Duty Cycle} \leq 50 \%$
Total Power Dissipation	P_T	200	mW	
Channel Temperature	T_{ch}	150	$^\circ\text{C}$	
Operating Temperature	T_{opt}	-55 to +80	$^\circ\text{C}$	
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$	

2SJ204

ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Drain Cut-off Current	I _{DSS}			-1.0	μA	V _{DS} = -30 V, V _{GS} = 0
Gate Leakage Current	I _{GS}			±1.0	μA	V _{GS} = ±20 V, V _{DS} = 0
Gate Cut-off Voltage	V _{GS(off)}	-1.4	-1.9	-2.4	V	V _{DS} = -5.0 V, I _D = -1.0 μA
Forward Transfer Admittance	Y _{fs}	20			mS	V _{DS} = -5.0 V, I _D = -10 mA
Drain to Source On-State Resistance	R _{DS(on)1}		8.5	13	Ω	V _{GS} = -4.0 V, I _D = -10 mA
Drain to Source On-State Resistance	R _{DS(on)2}		5	8	Ω	V _{GS} = -10 V, I _D = -10 mA
Input Capacitance	C _{iss}		27		pF	V _{DS} = -10 V, V _{GS} = 0, f = 1 MHz
Output Capacitance	C _{oss}		27		pF	
Feedback Capacitance	C _{rss}		6		pF	
Turn-On Delay Time	t _{d(on)}		120		ns	V _{GS(on)} = -4 V, R _G = 10 Ω, V _{DD} = -5 V, I _D = -0.3 A, R _L = 1.5 Ω
Rise Time	t _r		240		ns	
Turn-Off Delay Time	t _{d(off)}		135		ns	
Fall Time	t _f		210		ns	

SWITCHING TIME MEASUREMENT CIRCUIT AND CONDITIONS

