



2SJ414 — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-state resistance.
- Low-voltage drive.
- Surface mount type device making the following possible.
 - Reduction in the number of manufacturing processes for 2SJ414-applied equipment.
 - High density surface mount applications.
 - Small size of 2SJ414-applied equipment.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-60	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-18	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-72	A
Allowable Power Dissipation	P _D	Tc=25°C	40	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =-1mA, V _{GS} =0V	-60			V
Gate-to-Source Breakdown Voltage	V(BR)GSS	I _G =±100μA, V _{DS} =0V	±20			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-60V, V _{GS} =0V			-100	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-1mA	-1.0		-2.0	V

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2SJ414

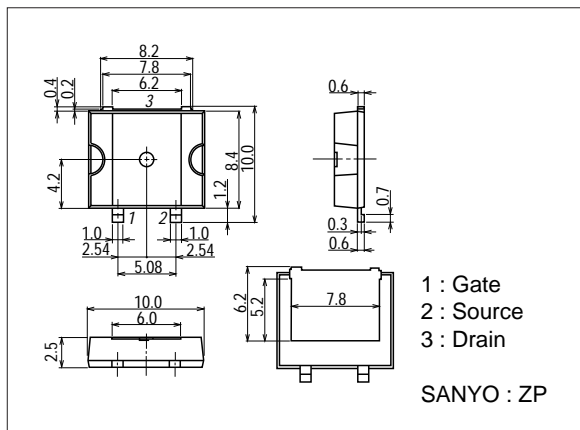
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=-10V, I_D=-9A$	8.0	13.5		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=-9A, V_{GS}=-10V$		60	80	$m\Omega$
	$R_{DS(on)2}$	$I_D=-9A, V_{GS}=-4V$		80	110	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS}=-20V, f=1MHz$		1900		pF
Output Capacitance	C_{oss}	$V_{DS}=-20V, f=1MHz$		600		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=-20V, f=1MHz$		150		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		18		ns
Rise Time	t_r	See specified Test Circuit.		35		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		350		ns
Fall Time	t_f	See specified Test Circuit.		250		ns
Diode Forward Voltage	V_{SD}	$I_S=-18A, V_{GS}=0V$		-1.0	-1.5	V

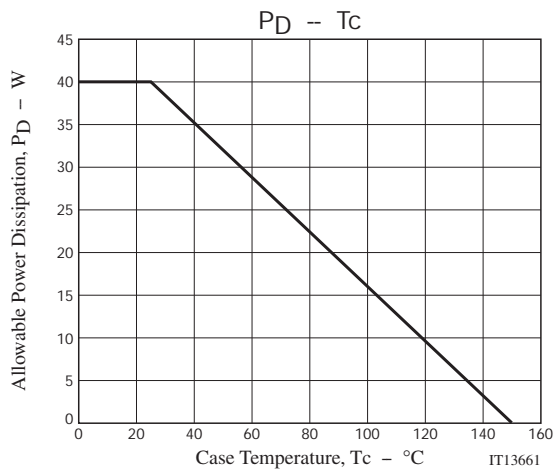
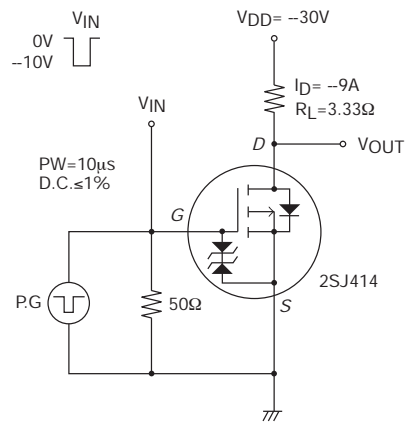
Package Dimensions

unit : mm (typ)

7002-001



Switching Time Test Circuit



Note on usage : Since the 2SJ414 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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