2SK2118

Silicon N-Channel MOS FET

HITACHI

Application

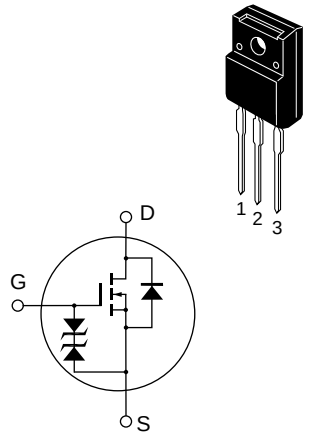
High speed power switching

Features

- Low on-resistance
- High speed switching
- Low drive current
- No secondary breakdown
- Suitable for Switching regulator, DC-DC converter,Motor Control

Outline

TO-220CFM



1. Gate
2. Drain
3. Source

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Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	600	V
Gate to source voltage	V_{GSS}	±30	V
Drain current	I_D	5	A
Drain peak current	$I_{D(pulse)}$*[1]	20	A
Body to drain diode reverse drain current	I_{DR}	5	A
Channel dissipation	Pch*[2]	35	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	–55 to +150	°C

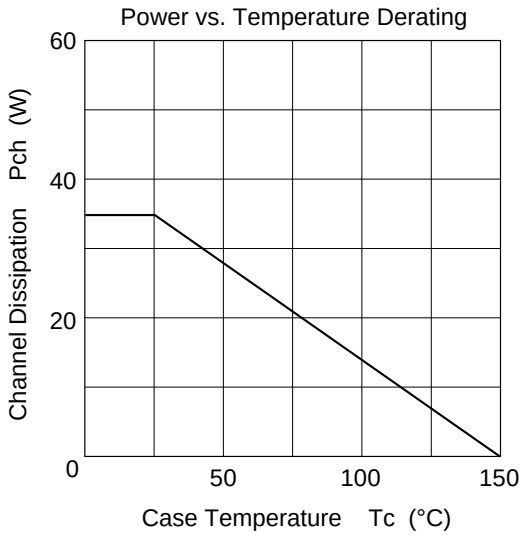
Notes 1. PW ≤ 10 µs, duty cycle ≤ 1 %
2. Value at Tc = 25 °C

Electrical Characteristics (Ta = 25°C)

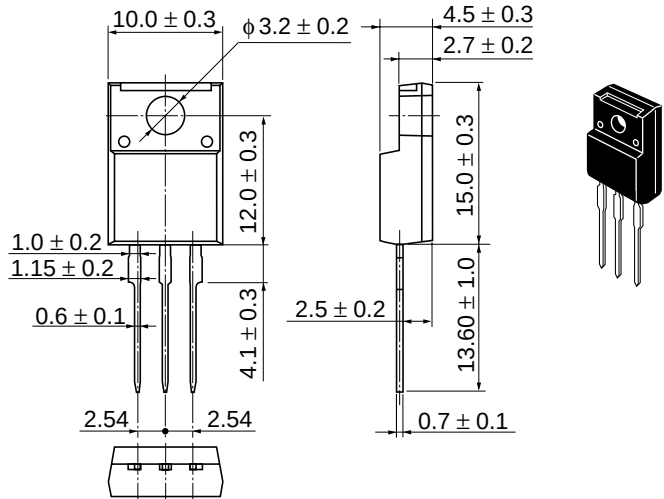
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	600	—	—	V	I_D = 10 mA, V_{GS} = 0
Gate to source breakdown voltage	$V_{(BR)GSS}$	±30	—	—	V	I_G = ±100 µA, V_{DS} = 0
Gate to source leak current	I_{GSS}	—	—	±10	µA	V_{GS} = ±25 V, V_{DS} = 0
Zero gate voltage drain current	I_{DSS}	—	—	250	µA	V_{DS} =500 V, V_{GS} = 0
Gate to source cutoff voltage	$V_{GS(off)}$	2.0	—	3.0	V	I_D = 1 mA, V_{DS} = 10 V
Static drain to source on state resistance	$R_{DS(on)}$	—	1.1	1.5	Ω	I_D = 2.5 A V_{GS} = 10 V*[1]
Forward transfer admittance	$\|y_{fs}\|$	3.0	5.0	—	S	I_D = 2.5 A V_{DS} = 10 V*[1]
Input capacitance	Ciss	—	1000	—	pF	V_{DS} = 10 V
Output capacitance	Coss	—	250	—	pF	V_{GS} = 0
Reverse transfer capacitance	Crss	—	45	—	pF	f = 1 MHz
Turn-on delay time	$t_{d(on)}$	—	12	—	ns	I_D = 2.5 A
Rise time	t_r	—	45	—	ns	V_{GS} = 10 V
Turn-off delay time	$t_{d(off)}$	—	105	—	ns	R_L = 12Ω
Fall time	t_f	—	55	—	ns	
Body to drain diode forward voltage	V_{DF}	—	0.9	—	V	I_F = 5 A, V_{GS} = 0
Body to drain diode reverse recovery time	t_{rr}	—	500	—	ns	I_F = 5 A, V_{GS} = 0, di_F / dt = 100 A / µs

Note 1. Pulse Test

See characteristic curve of 2SK1404.


Power vs. Temperature Derating
Channel Dissipation Pch (W)
60
40
20
0
50
100
150
Case Temperature Tc (°C)

Unit: mm



Hitachi Code	TO-220CFM
JEDEC	—
EIAJ	—
Weight (reference value)	1.9 g

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Hitachi, Ltd.
Semiconductor & Integrated Circuits.
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan
Tel: Tokyo (03) 3270-2111 Fax: (03) 3270-5109

URL
NorthAmerica : http:semiconductor.hitachi.com/
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For further information write to:

Hitachi Semiconductor
(America) Inc.
179 East Tasman Drive,
San Jose,CA 95134
Tel: <1> (408) 433-1990
Fax: <1>(408) 433-0223

Hitachi Europe GmbH
Electronic components Group
Dornacher Straße 3
D-85622 Feldkirchen, Munich
Germany
Tel: <49> (89) 9 9180-0
Fax: <49> (89) 9 29 30 00

Hitachi Europe Ltd.
Electronic Components Group.
Whitebrook Park
Lower Cookham Road
Maidenhead
Berkshire SL6 8YA, United Kingdom
Tel: <44> (1628) 585000
Fax: <44> (1628) 778322

Hitachi Asia Pte. Ltd.
16 Collyer Quay #20-00
Hitachi Tower
Singapore 049318
Tel: 535-2100
Fax: 535-1533

Hitachi Asia Ltd.
Taipei Branch Office
3F, Hung Kuo Building. No.167,
Tun-Hwa North Road, Taipei (105)
Tel: <886> (2) 2718-3666
Fax: <886> (2) 2718-8180

Hitachi Asia (Hong Kong) Ltd.
Group III (Electronic Components)
7/F., North Tower, World Finance Centre,
Harbour City, Canton Road, Tsim Sha Tsui,
Kowloon, Hong Kong
Tel: <852> (2) 735 9218
Fax: <852> (2) 730 0281
Telex: 40815 HITEC HX