
2SK2144

Silicon N-Channel MOS FET

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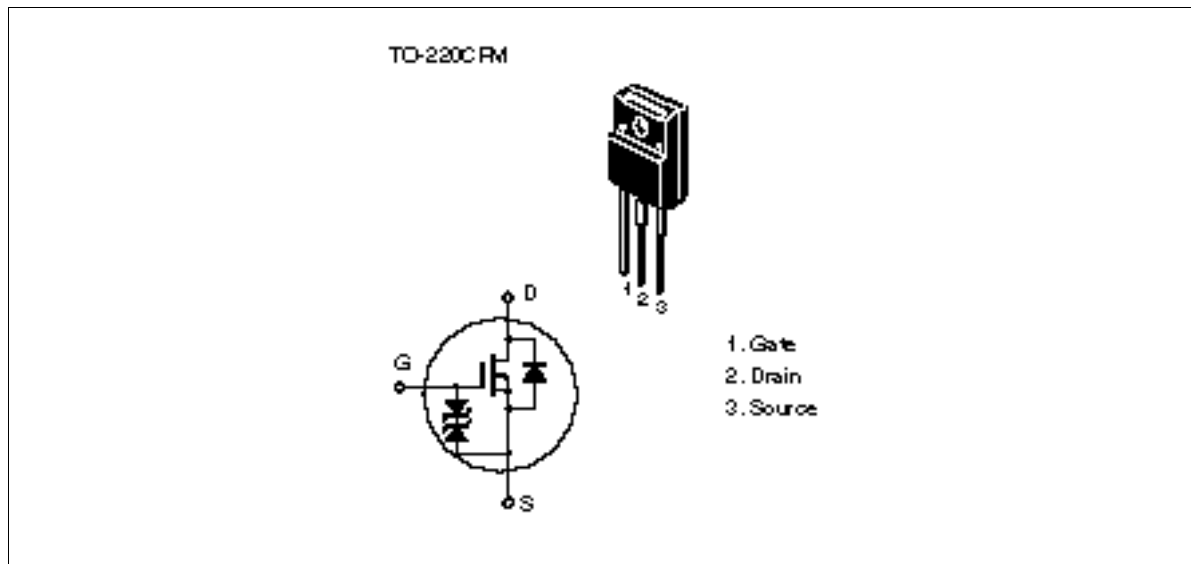
Application

High speed power switching

Features

- Low on-resistance
- High speed switching
- Low drive current
- No Secondary Breakdown
- Suitable for Switching regulator, DC-DC converter

Outline



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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	3	A
Drain peak current	I _{D(pulse)} *1	6	A
Body to drain diode reverse drain current	I _{DR}	3	A
Channel dissipation	P _{ch} *2	25	W
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

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

Electrical Characteristics (Ta = 25°C)

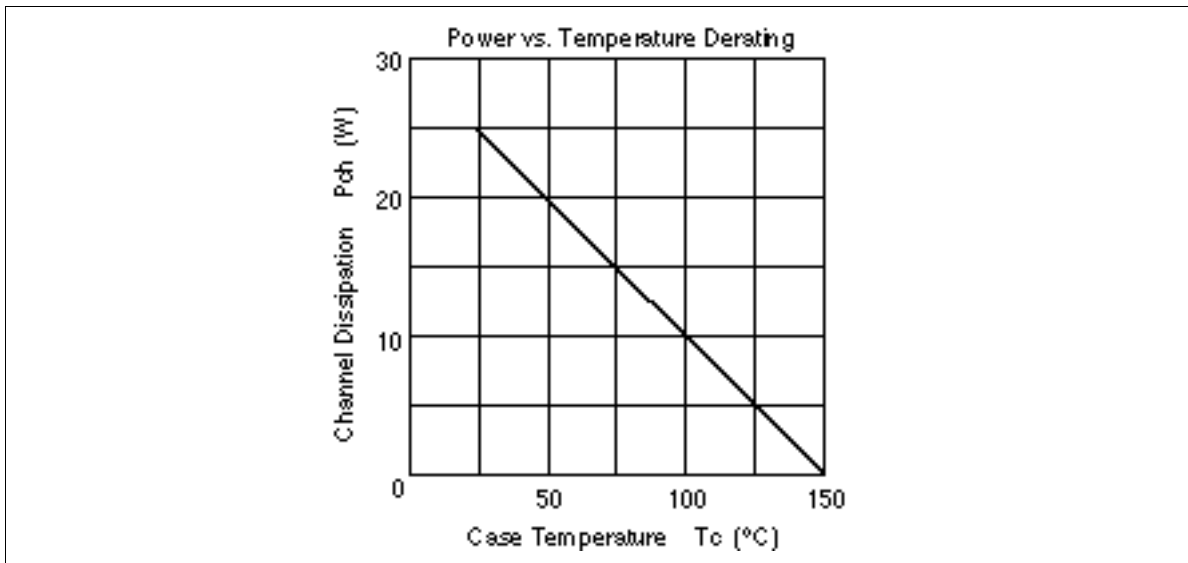
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	V _{(BR)DSS}	600	—	—	V	I _D = 10 mA, V _{GS} = 0
Gate to source breakdown voltage	V _{(BR)GSS}	±30	—	—	V	I _G = ±100 μA, V _{DS} = 0
Gate to source leak current	I _{GSS}	—	—	±10	μA	V _{GS} = ±25 V, V _{DS} = 0
Zero gate voltage 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)}	—	3.8	5.0		I _D = 1 A V _{GS} = 10 V*1
Forward transfer admittance	y _{fs}	1.2	2.0	—	S	I _D = 1 A V _{DS} = 10 V*1
Input capacitance	C _{iss}	—	295	—	pF	V _{DS} = 10 V
Output capacitance	C _{oss}	—	70	—	pF	V _{GS} = 0
Reverse transfer capacitance	C _{rss}	—	12	—	pF	f = 1 MHz
Turn-on delay time	t _{d(on)}	—	8	—	ns	I _D = 1 A
Rise time	t _r	—	25	—	ns	V _{GS} = 10 V
Turn-off delay time	t _{d(off)}	—	65	—	ns	R _L = 30
Fall time	t _f	—	30	—	ns	
Body to drain diode forward voltage	V _{DF}	—	0.9	—	V	I _F = 2 A, V _{GS} = 0
Body to drain diode reverse recovery time	t _{rr}	—	220	—	ns	I _F = 2 A, V _{GS} = 0, di _F / dt = 100 A / μs

Note 1. Pulse Test

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See characteristic curve of 2SK1572.

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Hitachi, Ltd.

Semiconductor & IC Div.

Nippon Bldg., 2-5-2, Ohta-machi, Chiyoda-ku, Tokyo 100, Japan

Tel Tokyo (03) 3270-2111

Fax (03) 3270-5109

For further information write to:

Hitachi America, Ltd.

Semiconductor & IC Div.

2000 Sierra Point Parkway

Folsom, CA, 94005-1835

U.S.A.

Tel 415-589-8000

Fax 415-589-4207

Hitachi Europe GmbH

Electronic Components Group

Continental Europe

Danrecher Straße 3

D-85622 Feldkirchen

München

Tel 089-9 94 80-0

Fax 089-9 29 30 00

Hitachi Europe Ltd.

Electronic Components Div.

Northern Europe Headquarters

Whitebrook Park

Lower Cookham Road

Maidenhead

Berkshire SL6 8YX

United Kingdom

Tel 0628-595000

Fax 0628-778322

Hitachi Asia Pte. Ltd.

15 Collyer Quay #20-00

Hitachi Tower

Singapore 0104

Tel 535-2100

Fax 535-1533

Hitachi Asia (Hong Kong) Ltd.

Unit 705, North Tower,

World Finance Centre

Harbour City, Canton Road

Tsim Sha Tsui, Kowloon

Hong Kong

Tel 27359218

Fax 27306074

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