2SK2116, 2SK2117

Silicon N-Channel MOS FET

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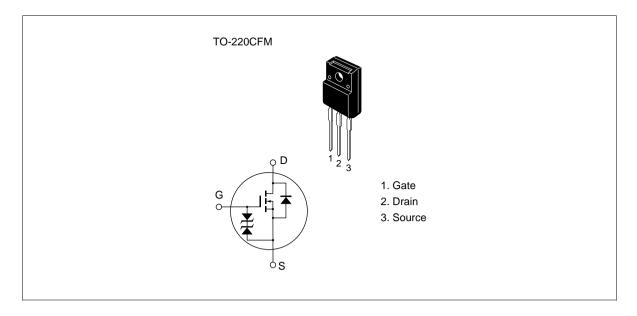
Application

High speed power switching

Features

- Low on-resistance
- High speed switching
- Low drive current
- No secondary breakdown
- Suitable for Switching regulator

Outline





2SK2116, 2SK2117

Absolute Maximum Ratings ($Ta = 25^{\circ}C$)

Item		Symbol	Ratings	Unit
Drain to source voltage	2SK2116	$V_{\scriptscriptstyle DSS}$	450	V
	2SK2117	V _{DSS}	500	
Gate to source voltage		V _{GSS}	±30	V
Drain current		I _D	7	Α
Drain peak current	I _{D(pulse)} *1	28	A	
Body to drain diode reverse dra	I _{DR}	7	A	
Channel dissipation		Pch*2	35	W
Channel temperature		Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C	

Notes 1. PW \leq 10 μ s, duty cycle \leq 1 %

^{2.} Value at Tc = 25 °C

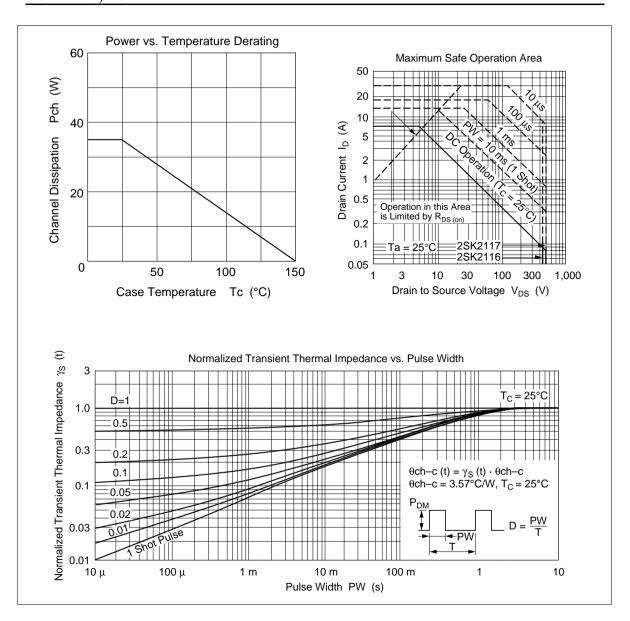
Electrical Characteristics ($Ta = 25^{\circ}C$)

Item		Symbol	Min	Тур	Max	Unit	Test conditions
Drain to source	2SK2116	$V_{(BR)DSS}$	450	_	_	V	$I_D = 10 \text{ mA}, V_{GS} = 0$
breakdown voltage	2SK2117	_	500				
Gate to source b voltage	reakdown	$V_{(BR)GSS}$	±30	_	_	V	$I_{G} = \pm 100 \ \mu A, \ V_{DS} = 0$
Gate to source le	eak current	I _{GSS}	_	_	±10	μΑ	$V_{GS} = \pm 25 \text{ V}, V_{DS} = 0$
Zero gate	2SK2116	I _{DSS}	_	_	250	μΑ	$V_{DS} = 360 \text{ V}, V_{GS} = 0$
voltage drain current	2SK2117	_					$V_{DS} = 400 \text{ V}, V_{GS} = 0$
Gate to source c	utoff voltage	$V_{GS(off)}$	2.0	_	3.0	V	$I_{D} = 1 \text{ mA}, V_{DS} = 10 \text{ V}$
Static drain to	2SK2116	R _{DS(on)}	_	0.6	0.8	Ω	$I_D = 4 \text{ A}, V_{GS} = 10 \text{ V}^{*1}$
source on state resistance	2SK2117	_	_	0.7	0.9		
Forward transfer	admittance	y _{fs}	4.0	6.5	_	S	I _D = 4 A V _{DS} = 10 V* ¹
Input capacitance	е	Ciss	_	1050	_	pF	V _{DS} = 10 V
Output capacitan	ice	Coss	_	280	_	pF	$V_{GS} = 0$
Reverse transfer	capacitance	Crss	_	40	_	pF	f = 1 MHz
Turn-on delay tin	ne	t _{d(on)}	_	15	_	ns	I _D = 4 A
Rise time		t _r	_	55	_	ns	V _{GS} = 10 V
Turn-off delay tin	ne	t _{d(off)}		95		ns	$R_L = 7.5 \Omega$
Fall time		t _f		40		ns	
Body to drain dio voltage	de forward	V_{DF}		0.95	_	V	$I_F = 7 \text{ A}, V_{GS} = 0$
Body to drain dio recovery time	de reverse	t _{rr}	_	320	_	ns	$I_F = 7 \text{ A}, V_{GS} = 0,$ $di_F / dt = 100 \text{ A} / \mu \text{s}$

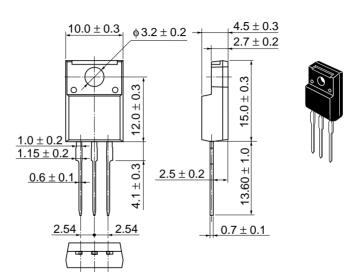
Note 1. Pulse Test

See characteristic curve of 2SK1157, 2SK1158.

2SK2116, 2SK2117



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

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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 Stra§e 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

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