

H5N2512CF

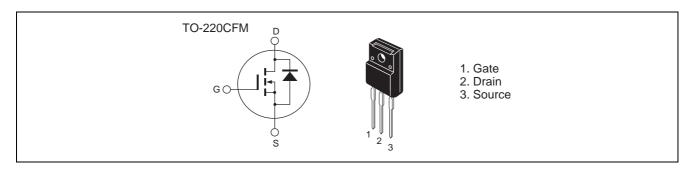
Silicon N Channel MOS FET High Speed Power Switching

REJ03G0481-0100 Rev.1.00 Nov.26.2004

Features

- Low on-resistance
- Low leakage current
- www.DataSheet4U.High Speed Switching
 - Built-in fast recovery diode

Outline



Absolute Maximum Ratings

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

Symbol	Ratings	Unit
V_{DSS}	250	V
V_{GSS}	±30	V
I _D	18	Α
I _{D(pulse)} Note 1	72	Α
I _{DR}	18	Α
I _{DR(pulse)} Note 1	72	Α
I _{AP} Note 3	18	Α
Pch Note 2	35	W
θch-c	3.57	°C/W
Tch	150	°C
Tstg	-55 to +150	°C
	V _{DSS} V _{GSS} I _D I _{D(pulse)} Note 1 I _{DR} I _{DR(pulse)} Note 1 I _{AP} Note 3 Pch Note 2 θch-c Tch	V _{DSS} 250 V _{GSS} ±30 I _D 18 I _{D(pulse)} Note 1 72 I _{DR} 18 I _{DR(pulse)} Note 1 72 I _{DR} 18 I _{DR(pulse)} Note 1 72 I _{AP} Note 3 18 Pch Note 2 35 θch-c 3.57 Tch 150

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

- 2. Value at Tc = 25°C
- 3. Tch ≤ 150°C

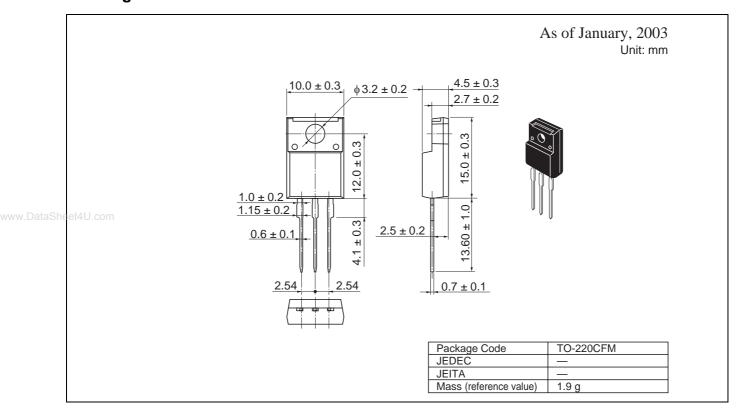
Electrical Characteristics

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

	Item	Symbol	Min	Тур	Max	Unit	Test Conditions
www.DataShes	Drain to source breakdown voltage	$V_{(BR)DSS}$	250	_	_	V	$I_D = 10 \text{ mA}, V_{GS} = 0$
	Gate to source leak current	I _{GSS}	_	_	±0.1	μΑ	$V_{GS} = \pm 30 \text{ V}, V_{DS} = 0$
	Zero gate voltage drain current	I _{DSS}	_	_	10	μΑ	$V_{DS} = 250 \text{ V}, V_{GS} = 0$
	Gate to source cutoff voltage	$V_{GS(off)}$	1.5	_	4.0	V	$I_D = 1 \text{ mA}, V_{DS} = 10 \text{ V}$
	Static drain to source on state resistance	R _{DS(on)}	_	0.082	0.105	Ω	$I_D = 9 \text{ A}, V_{GS} = 10 \text{ V}^{\text{Note 4}}$
	Forward transfer admittance	y _{fs}	9	16	_	S	$I_D = 9 \text{ A}, V_{DS} = 10 \text{ V}^{\text{Note 4}}$
	Input capacitance	Ciss	_	2200	1	pF	V _{DS} = 25 V
	Output capacitance	Coss	_	300	1	pF	$V_{GS} = 0$
	Reverse transfer capacitance	Crss		85		pF	f = 1MHz
	Turn-on delay time	t _{d(on)}	_	32		ns	I _D = 9 A
	Rise time	t _r	_	60		ns	$R_L = 13.9 \Omega$
	Turn-off delay time	$t_{\text{d(off)}}$	_	160		ns	$V_{GS} = 10 \text{ V}$
	Fall time	t _f	_	60		ns	$R_g = 10 \Omega$
	Total gate charge	Qg	_	81		nC	V _{DD} = 200 V
	Gate to source charge	Qgs	_	10		nC	$V_{GS} = 10 \text{ V}$
	Gate to drain charge	Qgd	_	38		nC	$I_D = 18 \text{ A}$
	Body-drain diode forward voltage	V_{DF}	_	0.9	1.4	V	$I_F = 18 \text{ A}, V_{GS} = 0^{\text{Note4}}$
	Body–drain diode reverse recovery time	t _{rr}	_	110	ı	ns	$I_F = 18 \text{ A}, V_{GS} = 0$ diF/ dt = 100 A/ μ s
	Body-drain diode reverse recovery time	Qrr	_	0.39	_	μС	

Notes: 4. Pulse test

Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
H5N3007CF	50	Stick

Note: Therefore especially small contact area of terminal, miss contact may occur if inadequate soldering condition is applied.

Contact Renesas sales office for any question regarding recommended soldering condition of Renesas.

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