

2SJ410

Silicon P Channel MOS FET

REJ03G0863-0300

Rev.3.00

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Description

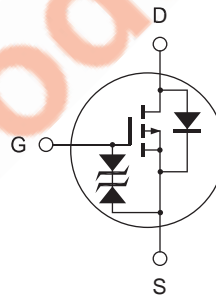
High speed power switching

Features

- Low on-resistance
- High speed switching
- Low drive current
- No secondary breakdown
- Suitable for switching regulator and DC-DC converter and motor driver

Outline

RENESAS Package code: PRSS0003AD-A
(Package name: TO-220FM)



1. Gate
2. Drain
3. Source

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Drain to source voltage	V_{DSS}	-200	V
Gate to source voltage	V_{GSS}	± 20	V
Drain current	I_D	-6	A
Drain peak current	$I_{D(pulse)}$ ^{Note 1}	-24	A
Body to drain diode reverse drain current	I_{DR}	-6	A
Channel dissipation	P_{ch} ^{Note 2}	30	W
Channel temperature	T_{ch}	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Notes: 1. $PW \leq 10 \mu s$, duty cycle $\leq 1\%$ 2. Value at $T_c = 25^\circ C$

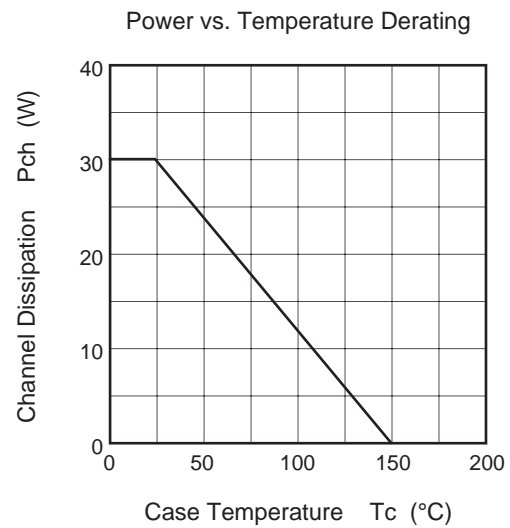
Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	-200	—	—	V	$I_D = -10 \text{ mA}$, $V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	± 20	—	—	V	$I_G = \pm 100 \mu A$, $V_{DS} = 0$
Gate to source leak current	I_{GSS}	—	—	± 10	μA	$V_{GS} = \pm 16 \text{ V}$, $V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	-250	μA	$V_{DS} = -160 \text{ V}$, $V_{GS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	-2.0	—	-4.0	V	$I_D = -1 \text{ mA}$, $V_{DS} = -10 \text{ V}$
Static drain to source on state resistance	$R_{DS(on)}$	—	0.7	0.85	Ω	$I_D = -3 \text{ A}$, $V_{GS} = -10 \text{ V}$ ^{Note 3}
Forward transfer admittance	$ y_{fs} $	2.0	3.2	—	S	$I_D = -3 \text{ A}$, $V_{DS} = -10 \text{ V}$ ^{Note 3}
Input capacitance	C_{iss}	—	900	—	pF	$V_{DS} = -10 \text{ V}$ $V_{GS} = 0$ $f = 1 \text{ MHz}$
Output capacitance	C_{oss}	—	280	—	pF	
Reverse transfer capacitance	C_{rss}	—	65	—	pF	
Turn-on delay time	$t_{d(on)}$	—	18	—	ns	$I_D = -3 \text{ A}$ $V_{GS} = -10 \text{ V}$ $R_L = 10 \Omega$
Rise time	t_r	—	50	—	ns	
Turn-off delay time	$t_{d(off)}$	—	90	—	ns	
Fall time	t_f	—	40	—	ns	
Body to drain diode forward voltage	V_{DF}	—	-1.0	—	V	$I_F = -6 \text{ A}$, $V_{GS} = 0$
Body to drain diode reverse recovery time	t_{rr}	—	220	—	ns	$I_F = -6 \text{ A}$, $V_{GS} = 0$ $di_F/dt = 50 \text{ A}/\mu s$

Note: 3. Pulse test

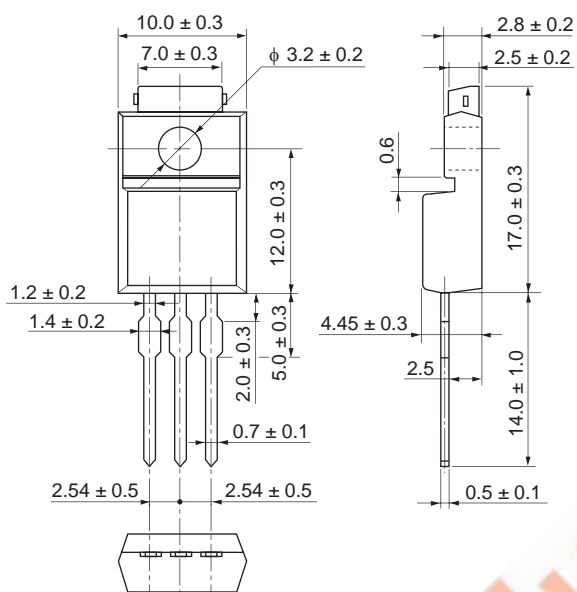
Main Characteristics



Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
TO-220FM	SC-67	PRSS0003AD-A	TO-220FM / TO-220FMV	1.8g

Unit: mm



Ordering Information

Part Name	Quantity	Shipping Container
2SJ410-E	500 pcs	Box (Sack)

Note: For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.

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