To our customers,

Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: http://www.renesas.com

April 1st, 2010
Renesas Electronics Corporation

EOL announced Product

Issued by: Renesas Electronics Corporation (http://www.renesas.com)

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2SK3229

Silicon N Channel MOS FET
High Speed Power Switching

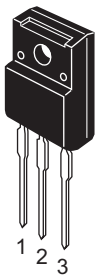
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Rev.2.00
Sep 07, 2005

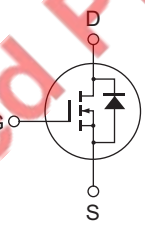
Features

- Low on-resistance
  $R_{DS\ (on)}$ = 6 mΩ typ.
- Low drive current
- 4 V gate drive device can be driven from 5 V source

Outline

RENESAS Package code: PRSS0003AE-A
(Package name: TO-220C•FM)





1. Gate
2. Drain
3. Source

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Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Drain to source voltage	V_{DSS}	80	V
Gate to source voltage	V_{GSS}	±20	V
Drain current	I_D	60	A
Drain peak current	$I_{D\ (pulse)}$ Note 1	240	A
Body-drain diode reverse drain current	I_{DR}	60	A
Avalanche current	I_{AP} Note 3	50	A
Avalanche energy	E_{AR} Note 3	181	mJ
Channel dissipation	Pch Note 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
3. Value at Tch ≤ 25°C, Rg ≥ 50 Ω

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Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)\ DSS}$	80	—	—	V	I_D = 10 mA, V_{GS} = 0
Gate to source leak current	I_{GSS}	—	—	±0.1	µA	V_{GS} = ±20 V, V_{DS} = 0
Zero gate voltage drain current	I_{DSS}	—	—	10	µA	V_{DS} = 80 V, V_{GS} = 0
Gate to source cutoff voltage	$V_{GS\ (off)}$	1.0	—	2.5	V	I_D = 1 mA, V_{DS} = 10 V
Static drain to source on state resistance	$R_{DS\ (on)}$	—	6.0	7.5	mΩ	I_D = 30 A, V_{GS} = 10 V Note 4
	$R_{DS\ (on)}$	—	8.0	12	mΩ	I_D = 30 A, V_{GS} = 4 V Note 4
Forward transfer admittance	$\|y_{fs}\|$	50	85	—	S	I_D = 30 A, V_{DS} = 10 V Note 4
Input capacitance	Ciss	—	9700	—	pF	I_D = 10 V
Output capacitance	Coss	—	1250	—	pF	V_{GS} = 0
Reverse transfer capacitance	Crss	—	290	—	pF	f = 1 MHz
Total gate charge	Qg	—	150	—	nC	V_{DD} = 25 V
Gate to source charge	Qgs	—	30	—	nC	V_{GS} = 25 V
Gate to drain charge	Qgd	—	30	—	nC	I_D = 60 A
Turn-on delay time	$t_{d\ (on)}$	—	80	—	ns	I_D = 30 A
Rise time	t_r	—	280	—	ns	V_{GS} = 10 V
Turn-off delay time	$t_{d\ (off)}$	—	780	—	ns	R_L = 1 Ω
Fall time	t_f	—	340	—	ns	
Body-drain diode forward voltage	V_{DF}	—	1.0	—	V	I_F = 60 A, V_{GS} = 0
Body-drain diode reverse recovery time	t_{rr}	—	80	—	ns	I_F = 60 A, V_{GS} = 0 di_F/dt = 50 A/µs

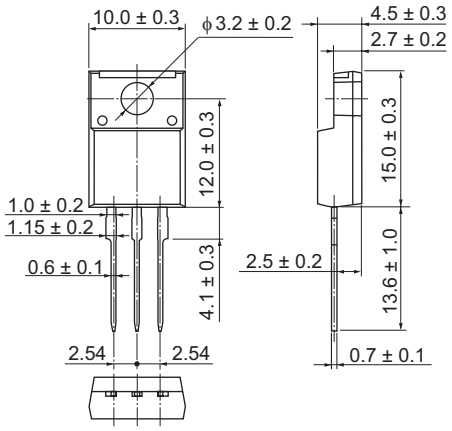
Note: 4. Pulse test

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Package Dimensions

JEITA Package Code	RENESAS Code	Package Name	MASS[Typ.]
—	PRSS0003AE-A	TO-220CFM / TO-220CFMV	1.9g

Unit: mm



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Ordering Information

Part Name	Quantity	Shipping Container
2SK3229-E	50 pcs	Plastic magazine

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