

2SJ451

Silicon P Channel MOS FET

REJ03G0864-0400
Rev.4.00
Sep 07, 2007

Description

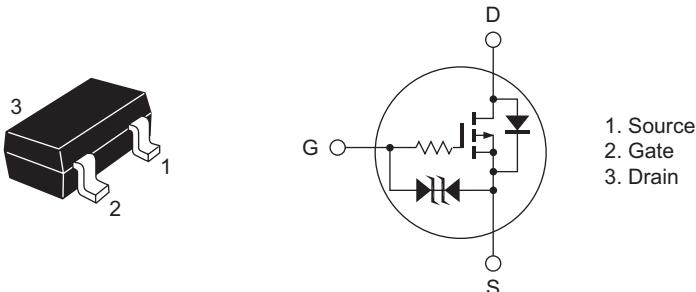
Low frequency power switching

Features

- Low on-resistance.
- Low drive power
- 2.5 V gate drive device.
- Small package (MPAK).

Outline

RENESAS Package code: PLSP0003ZB-A
(Package name: MPAK)



Note: Marking is "ZK-".

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Drain to source voltage	V _{DSS}	-20	V
Gate to source voltage	V _{GSS}	±20	V
Drain current	I _D	-0.2	A
Drain peak current	I _D (pulse) ^{Note 1}	-0.4	A
Channel dissipation	P _{ch}	150	mW
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

Note: 1. PW ≤ 10 µs, duty cycle ≤ 1%

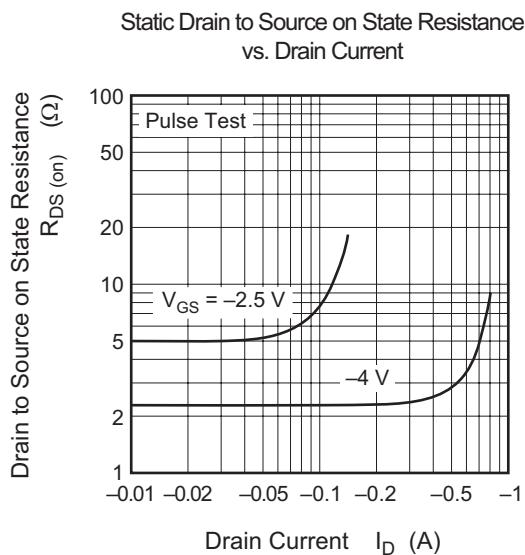
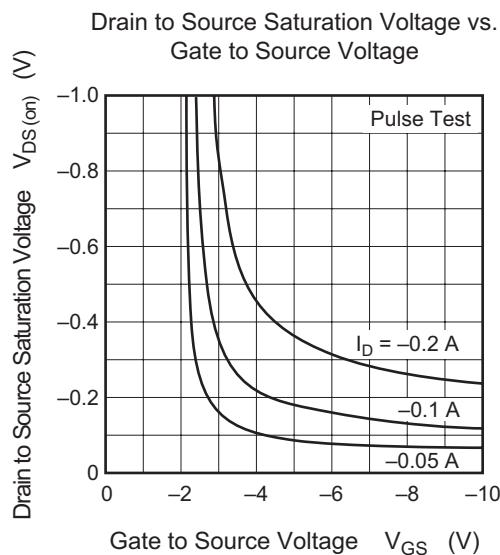
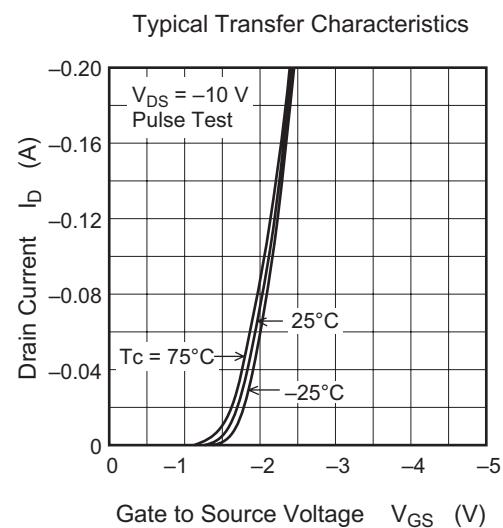
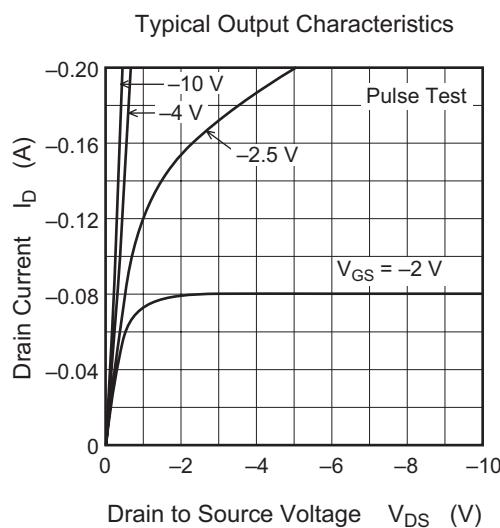
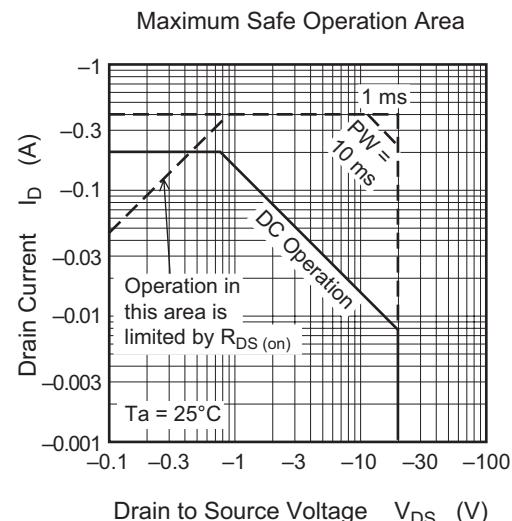
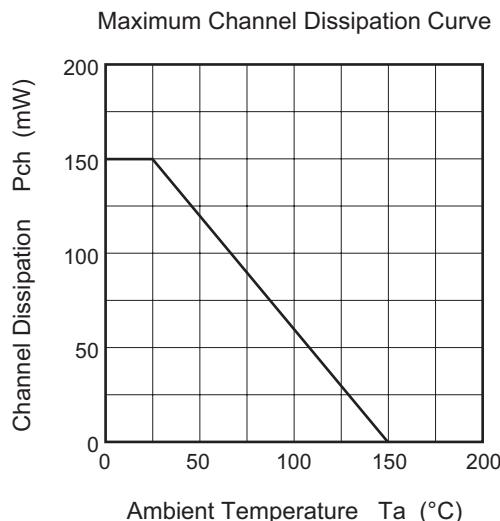
Electrical Characteristics

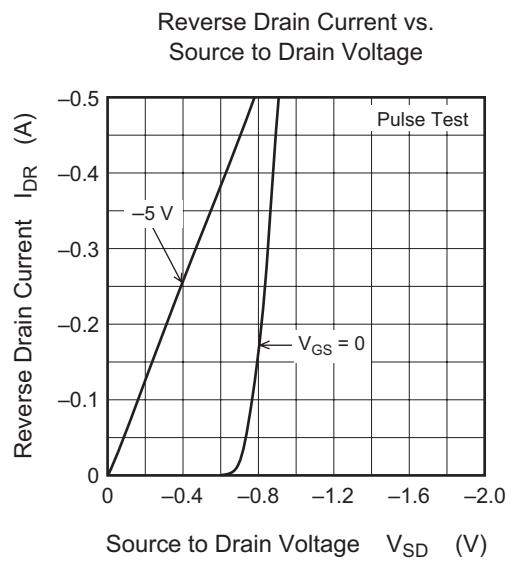
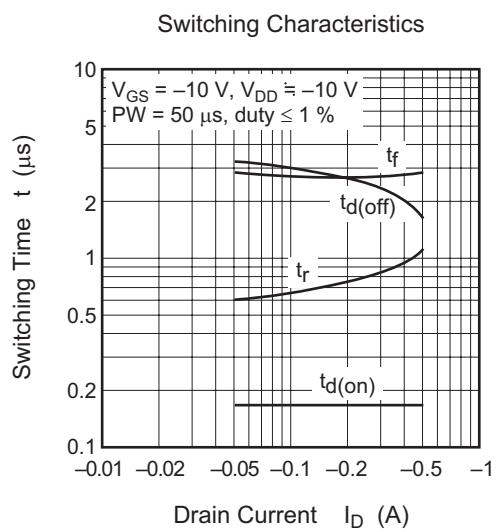
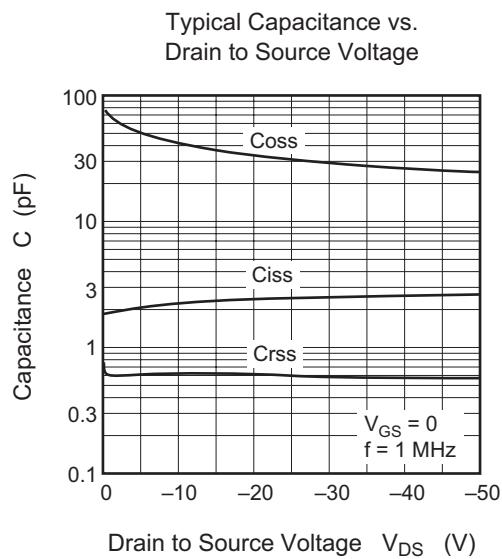
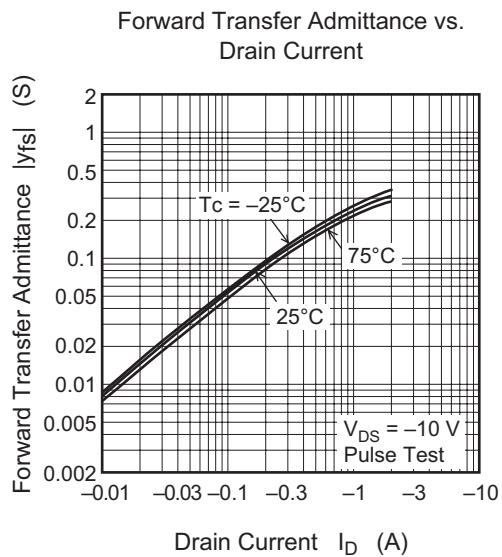
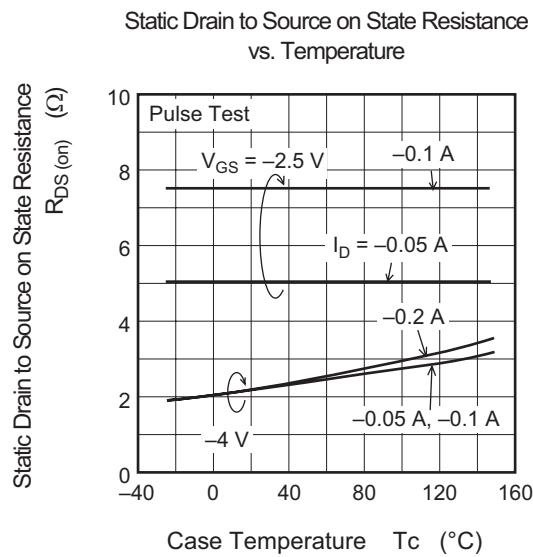
(Ta = 25°C)

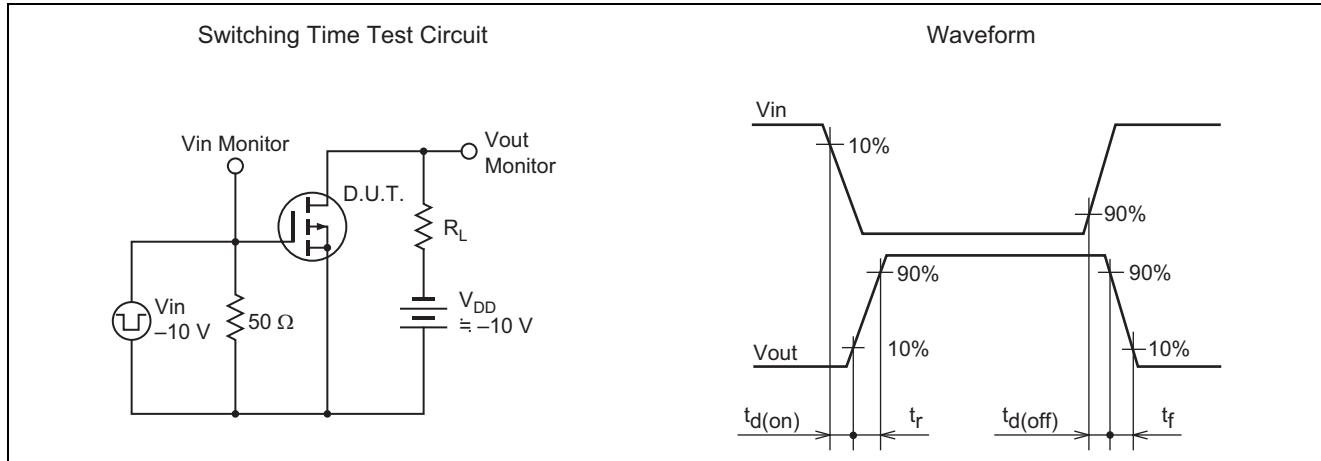
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	V _{(BR) DSS}	-20	—	—	V	I _D = -100 μA, V _{GS} = 0
Gate to source breakdown voltage	V _{(BR) GSS}	±20	—	—	V	I _G = ±100 μA, V _{DS} = 0
Zero gate voltage drain current	I _{DSS}	—	—	-1.0	μA	V _{DS} = -16 V, V _{GS} = 0
Gate to source leak current	I _{GSS}	—	—	±2.0	μA	V _{GS} = ±16 V, V _{DS} = 0
Gate to source cutoff voltage	V _{GS (off)}	-0.5	—	-1.5	V	I _D = -10 μA, V _{DS} = -5 V
Static drain to source on state resistance	R _{DSS (on) 1}	—	2.3	3.5	Ω	I _D = -100 mA, V _{GS} = -4 V ^{Note 2}
	R _{DSS (on) 2}	—	5.0	9.0	Ω	I _D = -40 mA, V _{GS} = -2.5 V ^{Note 2}
Forward transfer admittance	y _{fs}	0.13	0.23	—	S	I _D = -100 mA, V _{DS} = -10 V ^{Note 2}
Input capacitance	C _{iss}	—	2.4	—	pF	V _{DS} = -10 V
Output capacitance	C _{oss}	—	31	—	pF	V _{GS} = 0
Reverse transfer capacitance	C _{rss}	—	0.6	—	pF	f = 1 MHz
Turn-on delay time	t _{d (on)}	—	170	—	ns	I _D = -0.1 A V _{GS} = -10 V R _L = 100 Ω
Rise time	t _r	—	680	—	ns	
Turn-off delay time	t _{d (off)}	—	3.0	—	μs	
Fall time	t _f	—	2.8	—	μs	

Note: 2. Pulse test

Main Characteristics







Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
MPAK	SC-59A	PLSP0003ZB-A	MPAK(T) / MPAK(T)V	0.011g

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
A	1.0	—	1.3
A ₁	0	—	0.1
A ₂	1.0	1.1	1.2
[A ₃]	—	0.25	—
b	0.35	0.4	0.5
c	0.1	0.16	0.26
D	2.7	—	3.1
E	1.35	1.5	1.65
[e]	—	0.95	—
H _E	2.2	2.8	3.0
L	0.35	—	0.75
L ₁	0.15	—	0.55
L _P	0.25	—	0.65
x	—	—	0.05
b ₂	—	—	0.55
[e ₁]	—	1.95	—
l ₁	—	—	1.05
Q	—	0.3	—

Ordering Information

Part Name	Quantity	Shipping Container
2SJ451ZK-TL-E	3000 pcs	Taping
2SJ451ZK-TR-E	3000 pcs	Taping

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

Renesas Technology Corp. Sales Strategic Planning Div. Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan

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