

## 2SJ451

### Silicon P Channel MOS FET

REJ03G0864-0400  
Rev.4.00  
Sep 07, 2007

#### Description

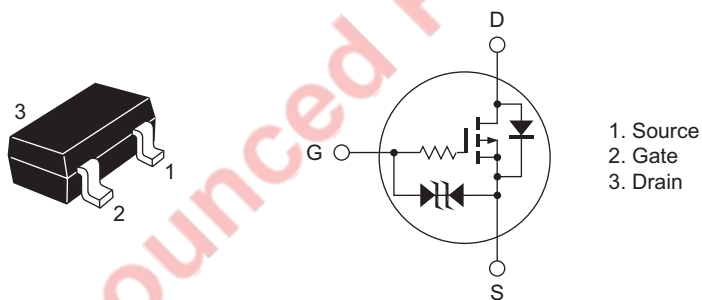
Low frequency power switching

#### 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	$V_{GSS}$	$\pm 20$	V
Drain current	$I_D$	-0.2	A
Drain peak current	$I_{D(pulse)}$ <sup>Note 1</sup>	-0.4	A
Channel dissipation	Pch	150	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

Note: 1. PW ≤ 10 μs, duty cycle ≤ 1%

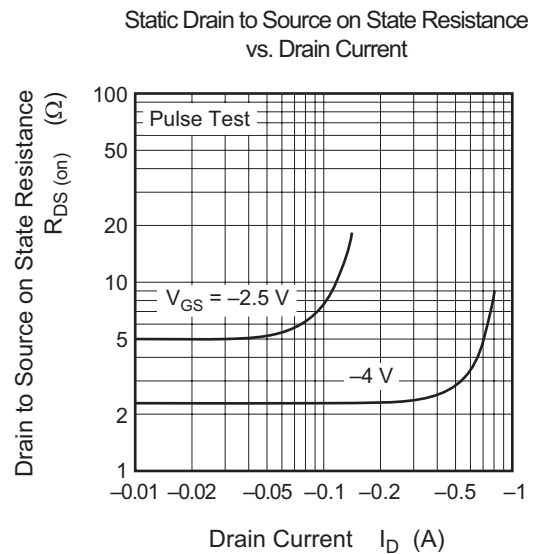
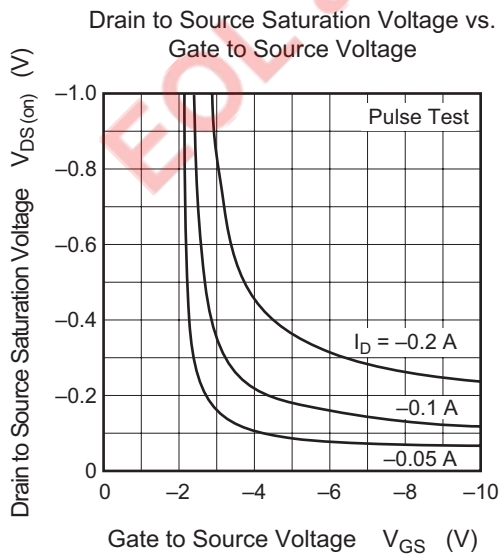
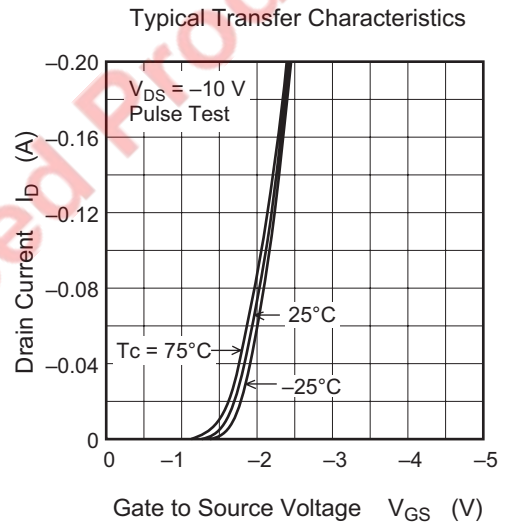
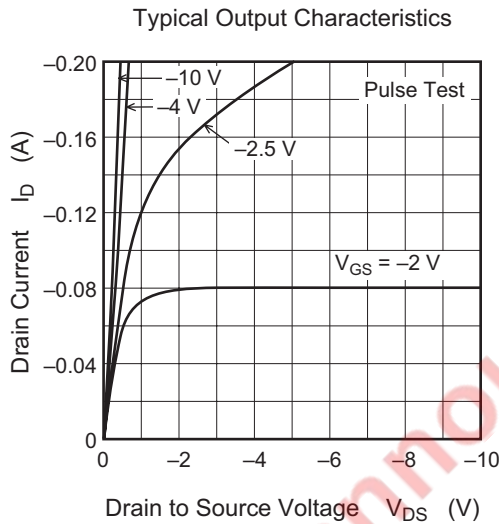
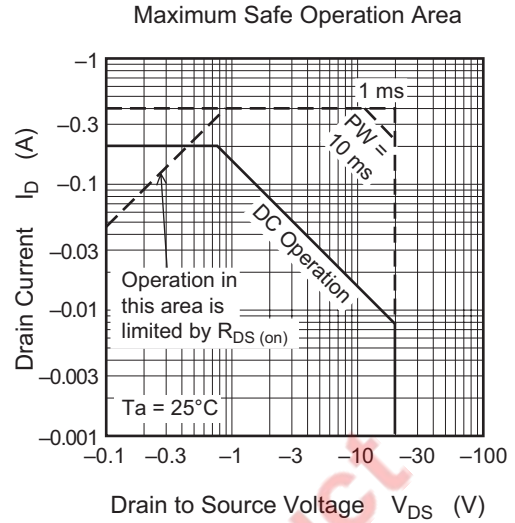
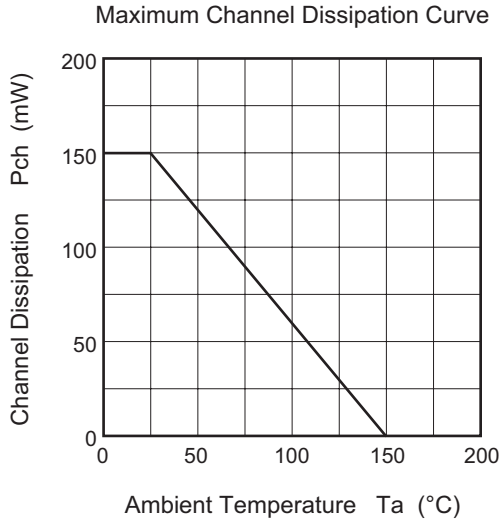
## Electrical Characteristics

(Ta = 25°C)

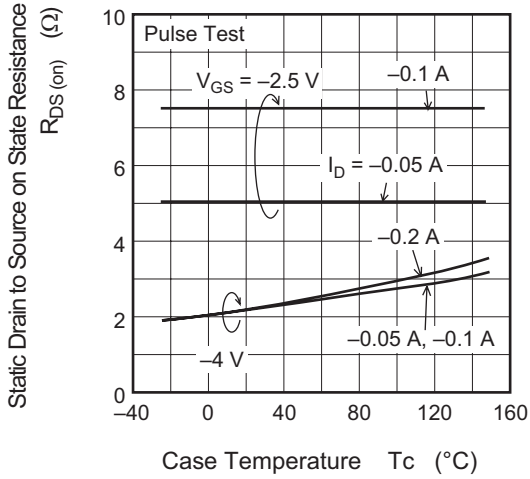
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	-20	—	—	V	$I_D = -100 \mu A, V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	$\pm 20$	—	—	V	$I_G = \pm 100 \mu A, V_{DS} = 0$
Zero gate voltage drain current	$I_{DSS}$	—	—	-1.0	$\mu A$	$V_{DS} = -16 V, V_{GS} = 0$
Gate to source leak current	$I_{GSS}$	—	—	$\pm 2.0$	$\mu A$	$V_{GS} = \pm 16 V, V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	-0.5	—	-1.5	V	$I_D = -10 \mu A, V_{DS} = -5 V$
Static drain to source on state resistance	$R_{DS(on)1}$	—	2.3	3.5	$\Omega$	$I_D = -100 mA, V_{GS} = -4 V$ <sup>Note 2</sup>
	$R_{DS(on)2}$	—	5.0	9.0	$\Omega$	$I_D = -40 mA, V_{GS} = -2.5 V$ <sup>Note 2</sup>
Forward transfer admittance	$ y_{fs} $	0.13	0.23	—	S	$I_D = -100 mA, V_{DS} = -10 V$ <sup>Note 2</sup>
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	$I_D = -0.1 A$
Rise time	$t_r$	—	680	—	ns	$V_{GS} = -10 V$
Turn-off delay time	$t_{d(off)}$	—	3.0	—	$\mu s$	$R_L = 100 \Omega$
Fall time	$t_f$	—	2.8	—	$\mu s$	

Note: 2. Pulse test

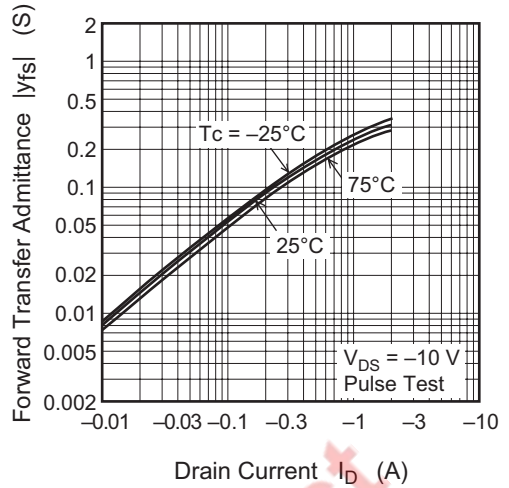
Main Characteristics



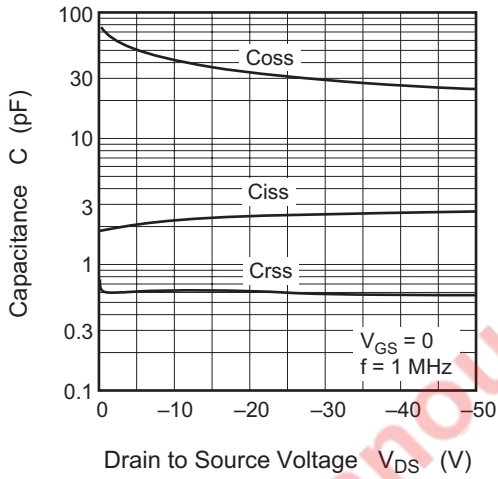
Static Drain to Source on State Resistance vs. Temperature



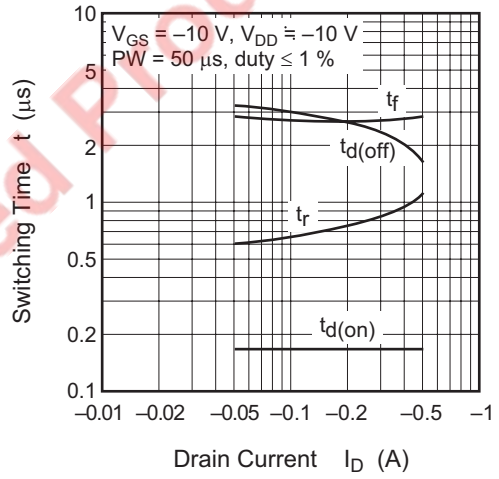
Forward Transfer Admittance vs. Drain Current



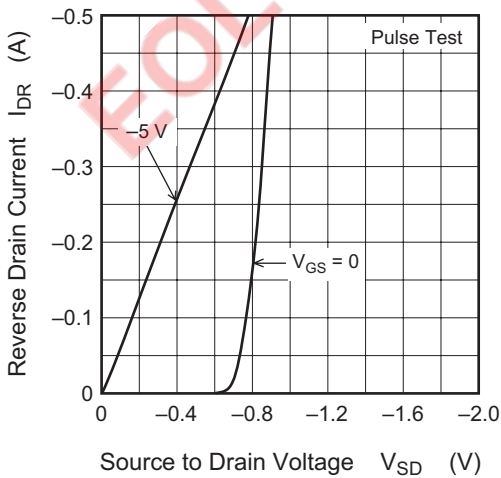
Typical Capacitance vs. Drain to Source Voltage

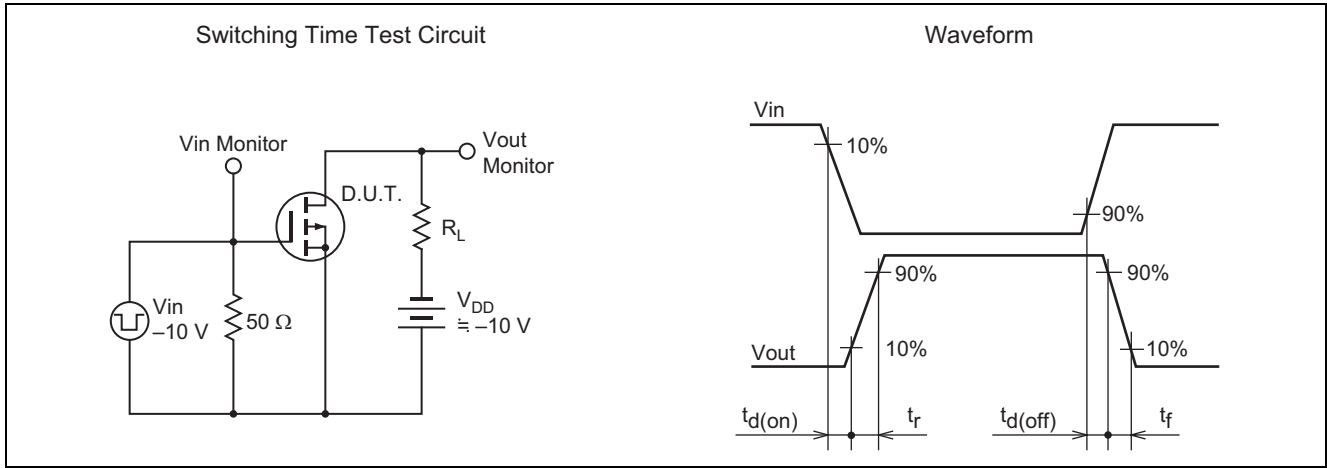


Switching Characteristics



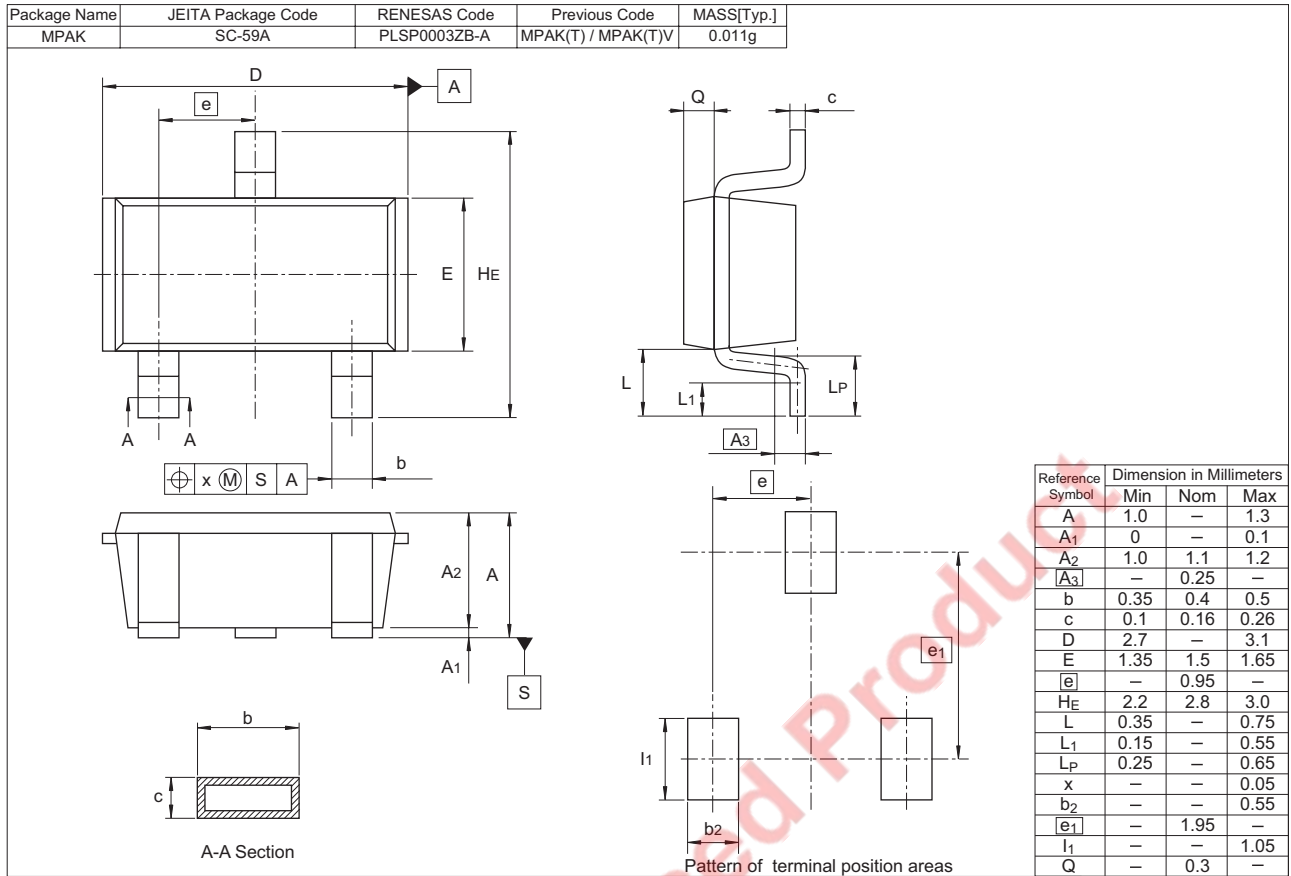
Reverse Drain Current vs. Source to Drain Voltage





EOL announced Product

### Package Dimensions



### 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.

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