

2SK2569

Silicon N Channel MOS FET

REJ03G1018-0300
Rev.3.00
Dec 27, 2006

Application

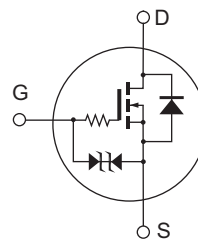
High speed power switching

Features

- Low on-resistance.
- $R_{DS(on)} = 2.6 \Omega$ max. (at $V_{GS} = 4 \text{ V}$, $I_D = 100 \text{ mA}$)
- 2.5 V gate drive device.
- Small package (MPAK).

Outline

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



1. Source
2. Gate
3. Drain

Note: Marking is "ZN-"

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	50	V
Gate to source voltage	V_{GSS}	±20	V
Drain current	I_D	0.2	A
Drain peak current	$I_{D(pulse)}^{*1}$	0.4	A
Channel dissipation	P_{ch}^{*2}	150	mW
Channel temperature	T_{ch}	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Note: 1. $PW \leq 10 \mu s$, duty cycle $\leq 1\%$

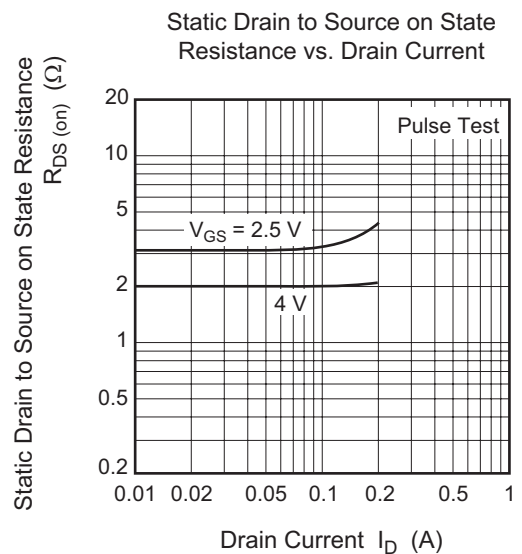
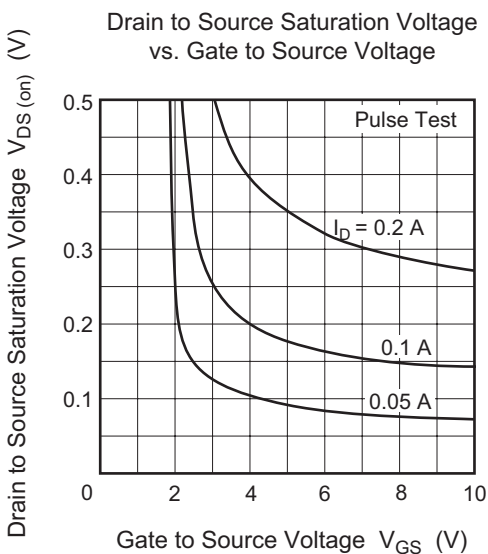
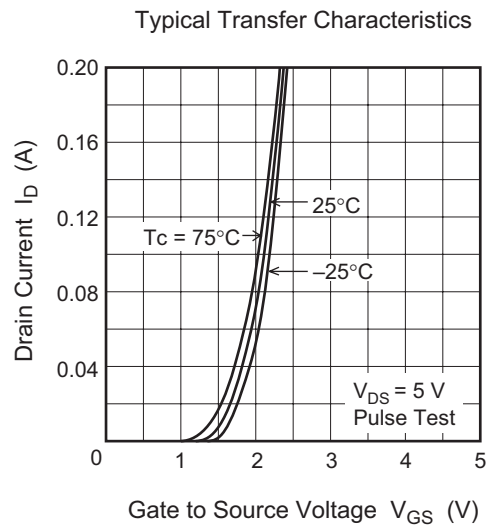
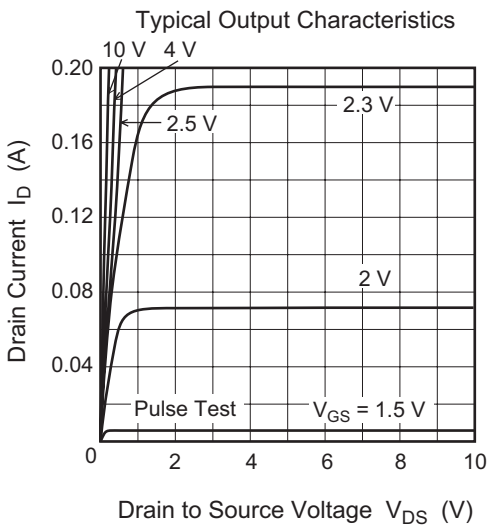
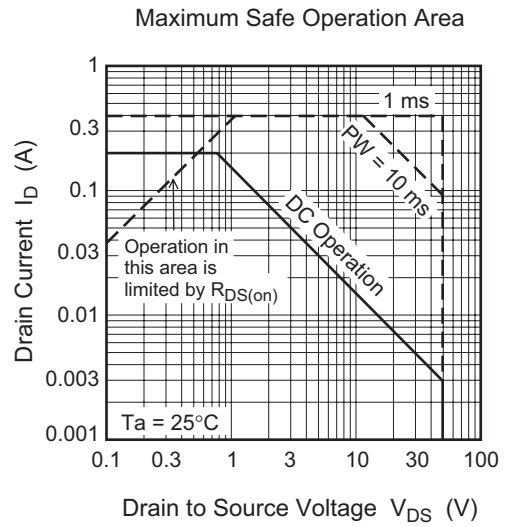
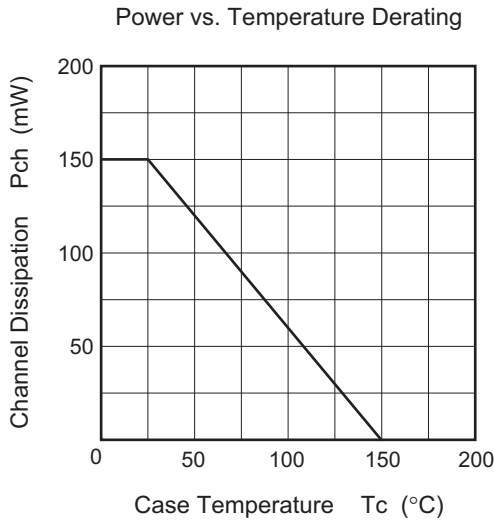
Electrical Characteristics

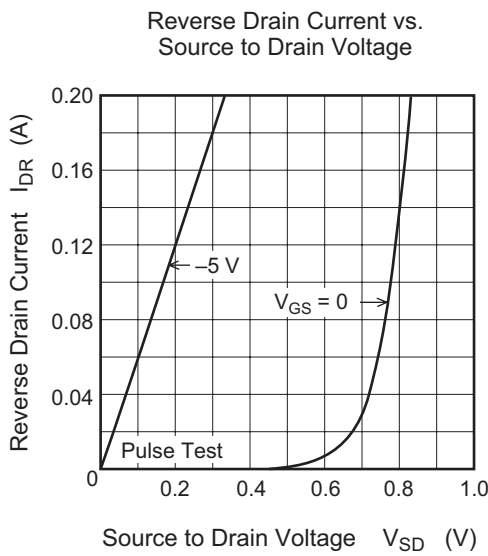
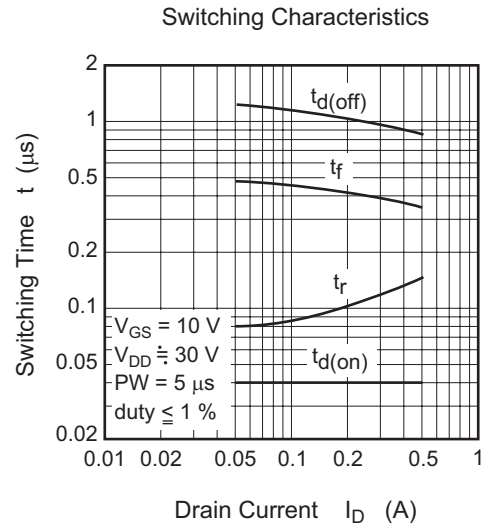
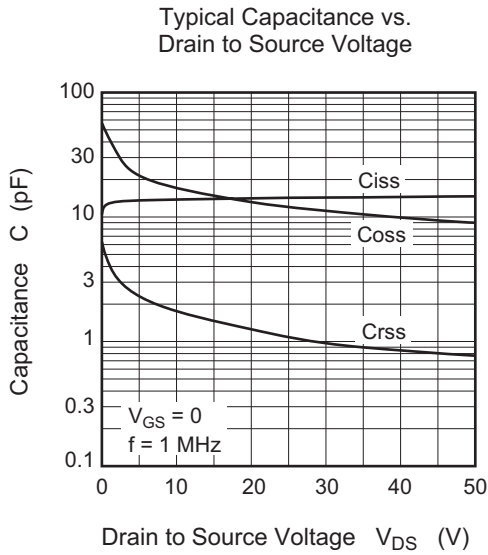
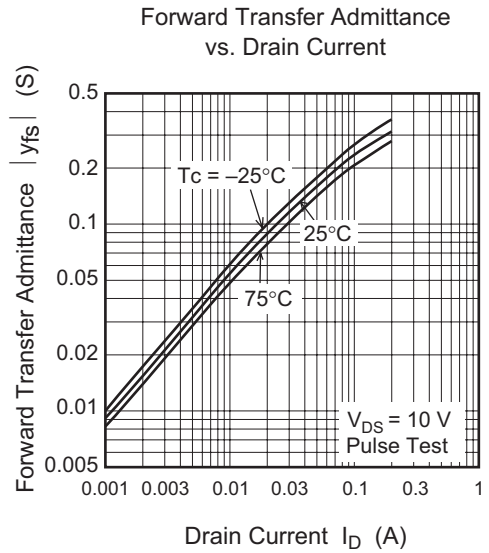
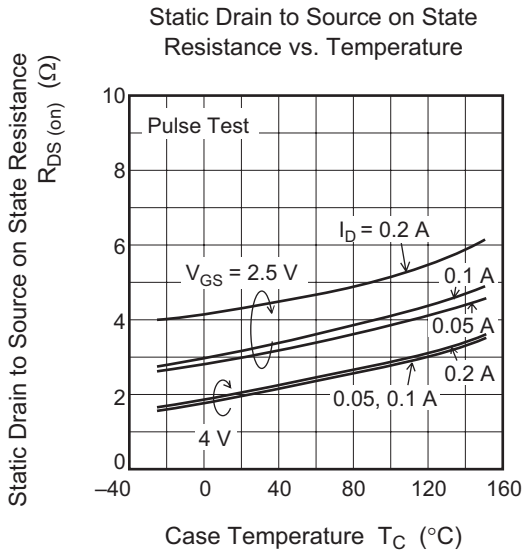
(Ta = 25°C)

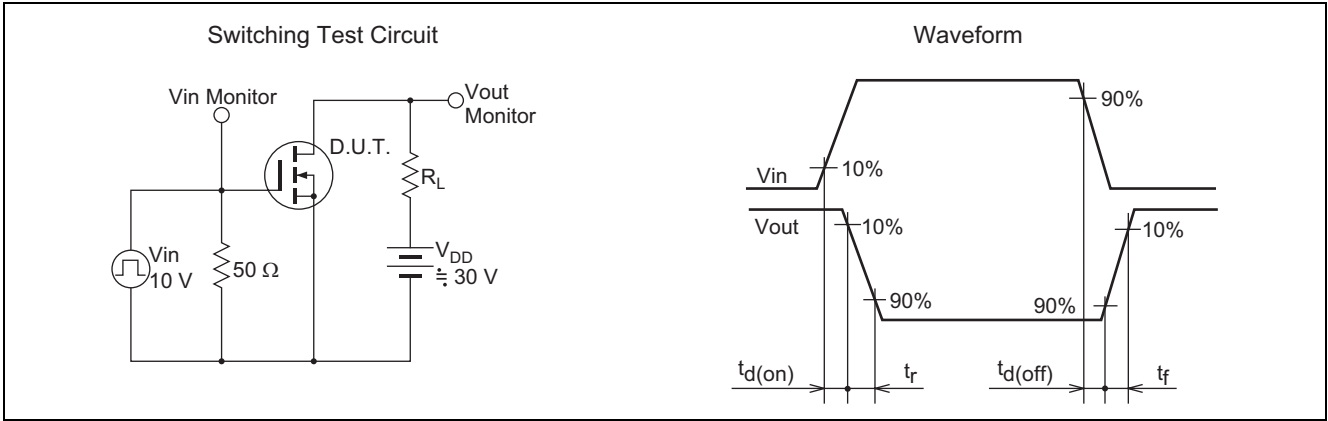
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	50	—	—	V	$I_D = 100 \mu A$, $V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	±20	—	—	V	$I_G = \pm 100 \mu A$, $V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	1.0	μA	$V_{DS} = 40 V$, $V_{GS} = 0$
Gate to source leak current	I_{GSS}	—	—	±2.0	μA	$V_{GS} = \pm 16 V$, $V_{DS} = 0$
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	$R_{DS(on)1}$	—	2.0	2.6	Ω	$I_D = 100 mA$, $V_{GS} = 4 V^{*2}$
Static drain to source on state resistance	$R_{DS(on)2}$	—	3.1	5.0	Ω	$I_D = 40 mA$, $V_{GS} = 2.5 V^{*2}$
Forward transfer admittance	$ y_{fs} $	0.13	0.23	—	S	$I_D = 100 mA$, $V_{DS} = 10 V$
Input capacitance	C_{iss}	—	14.0	—	pF	$V_{DS} = 10 V$, $V_{GS} = 0$, $f = 1 MHz$
Output capacitance	C_{oss}	—	17.2	—	pF	
Reverse transfer capacitance	C_{rss}	—	1.73	—	pF	
Turn-on delay time	$t_{d(on)}$	—	40	—	ns	$V_{GS} = 10 V$, $I_D = 100 mA$, $R_L = 300 \Omega$
Rise time	t_r	—	86	—	ns	
Turn-off delay time	$t_{d(off)}$	—	1120	—	ns	
Fall time	t_f	—	430	—	ns	

Note: 2. Pulse test

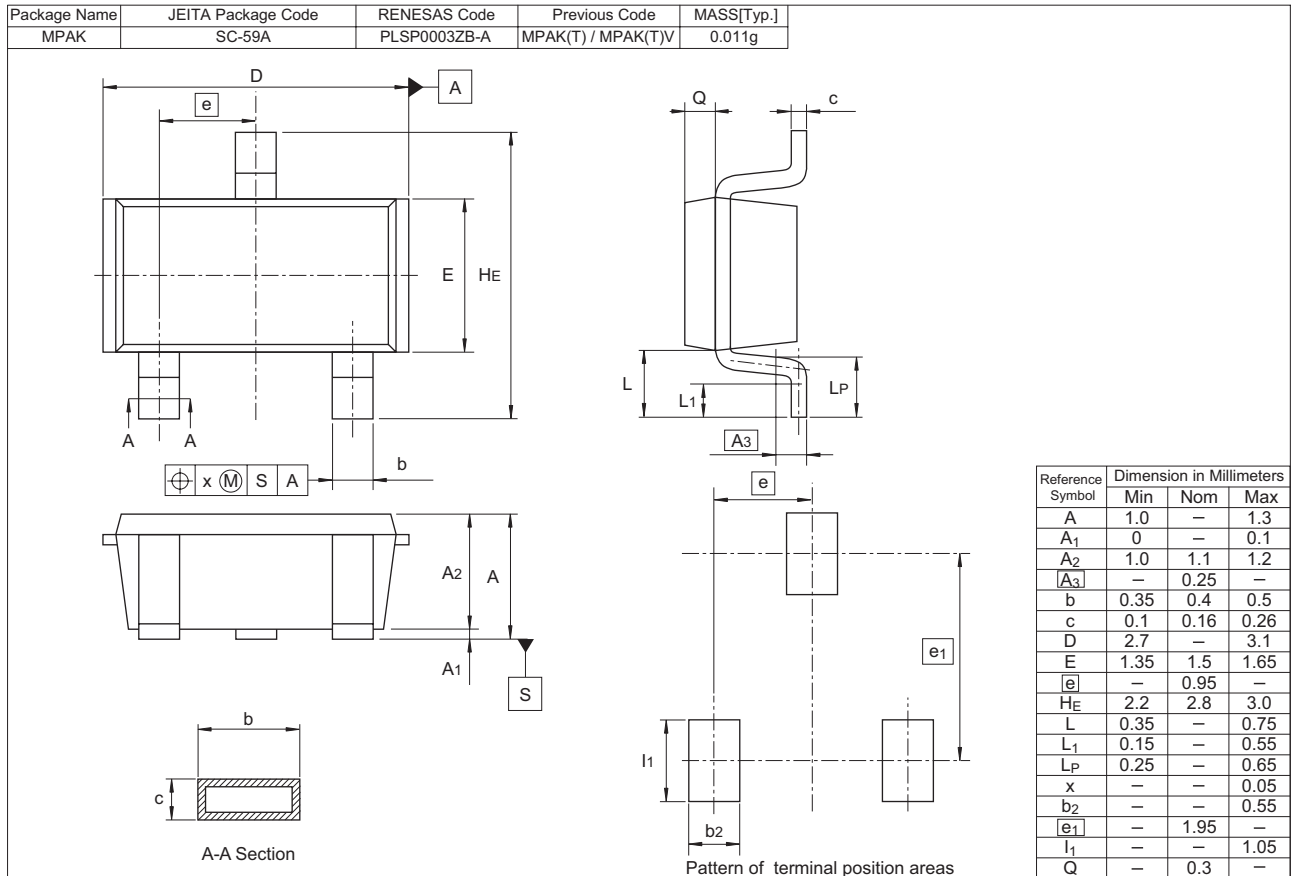
Main Characteristics







Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SK2569ZN-TL-E	3000 pcs	Taping
2SK2569ZN-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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