

2SK2570

Silicon N Channel MOS FET Low Frequency Power Switching

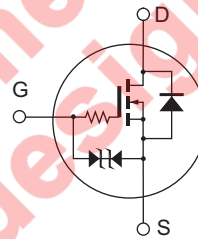
REJ03G1019-0200
(Previous: ADE-208-574)
Rev.2.00
Sep 07, 2005

Features

- Low on-resistance
 $R_{DS(on)} = 0.8 \Omega$ typ. ($V_{GS} = 4 \text{ V}$, $I_D = 100 \text{ mA}$)
- 2.5 V gate drive devices.
- Small package (MPAK)

Outline

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



1. Source
2. Gate
3. Drain

Note: Marking is "ZL—"

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	20	V
Gate to source voltage	V_{GSS}	±10	V
Drain current	I_D	0.2	A
Drain peak current	$I_{D(pulse)}^{*1}$	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 %

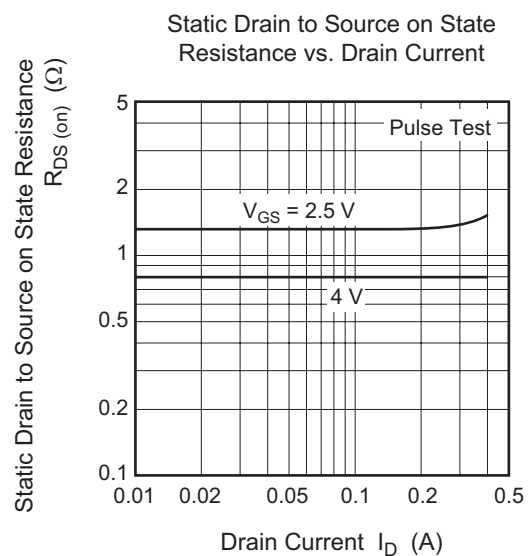
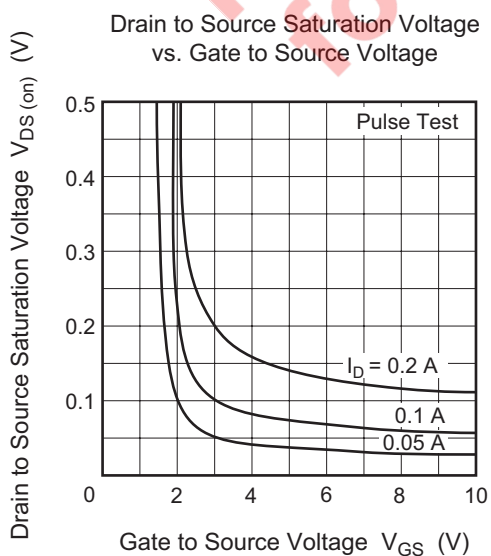
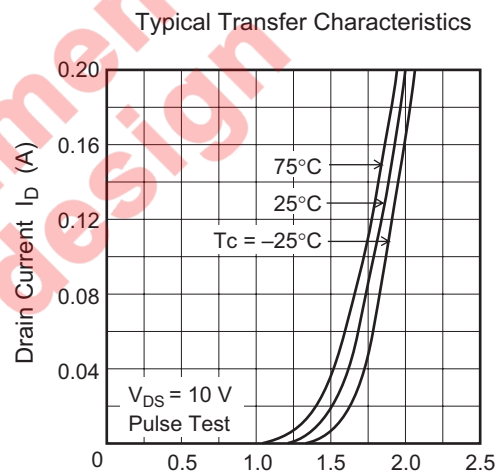
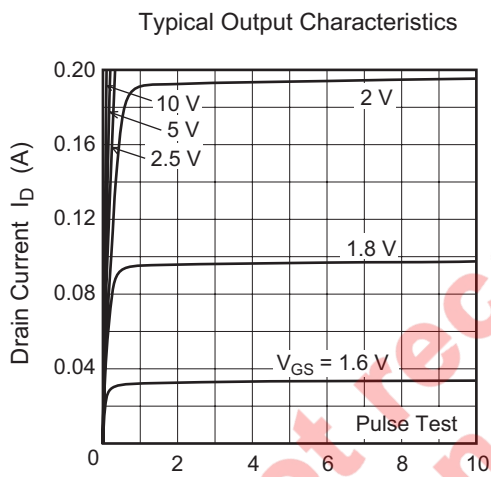
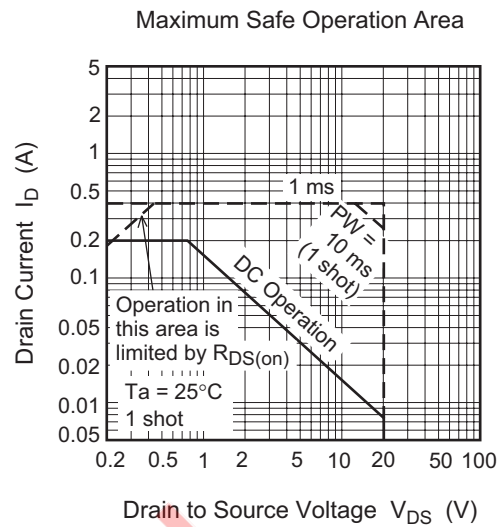
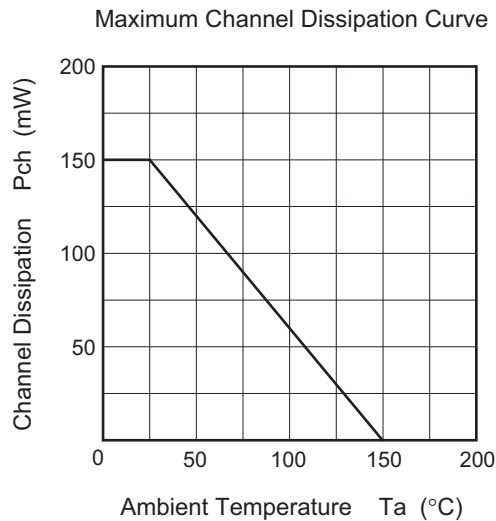
Electrical Characteristics

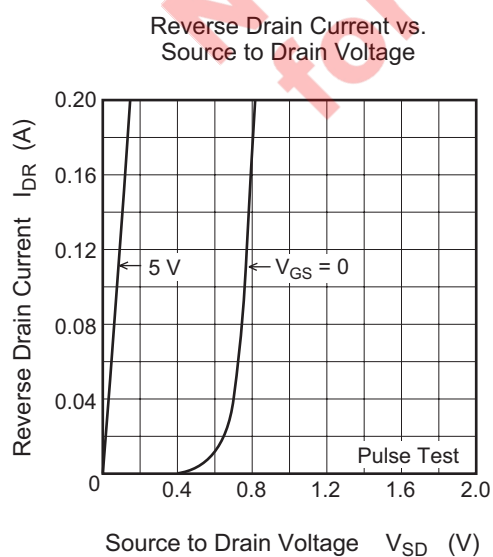
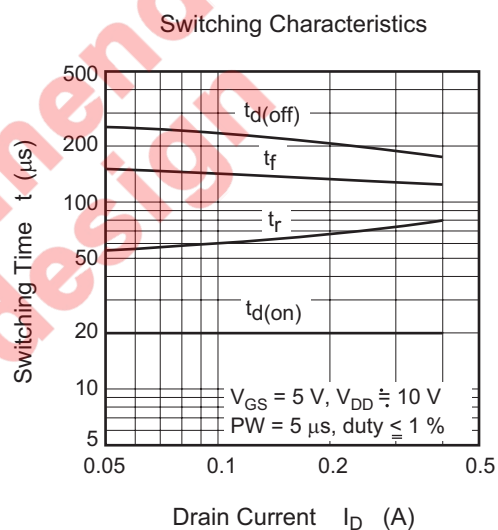
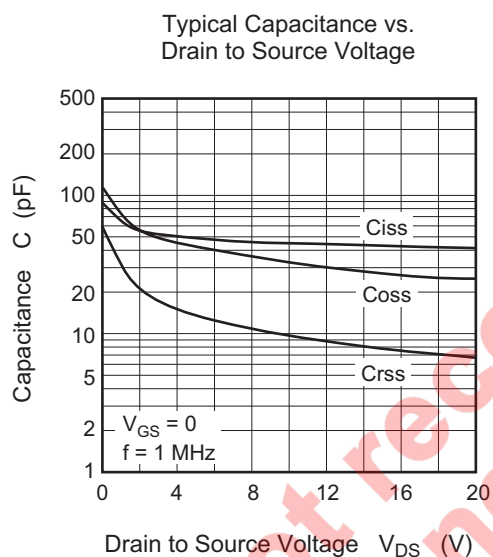
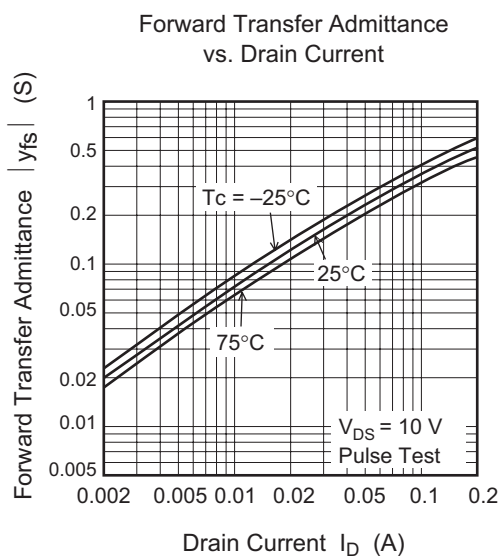
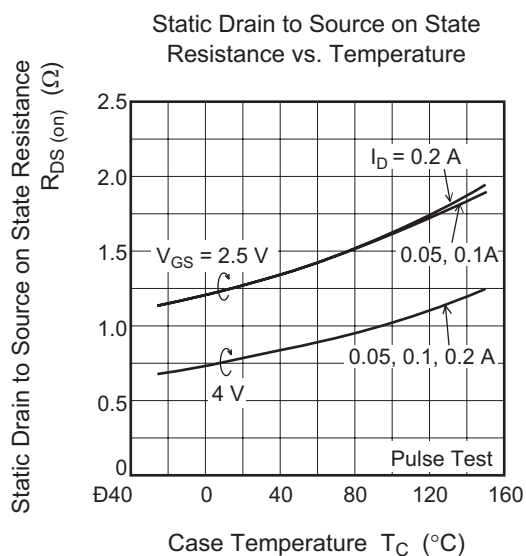
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	20	—	—	V	$I_D = 10 \mu A, V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	±10	—	—	V	$I_G = \pm 100 \mu A, V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	1.0	μA	$V_{DS} = 20 V, V_{GS} = 0$
Gate to source leak current	I_{GSS}	—	—	±5.0	μA	$V_{GS} = \pm 6.5 V, V_{DS} = 0$
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	$R_{DS(on)}$	—	0.8	1.1	Ω	$I_D = 100 mA, V_{GS} = 4 V^{*2}$
		—	1.3	2.2	Ω	$I_D = 40 mA, V_{GS} = 2.5 V^{*2}$
Forward transfer admittance	$ y_{fs} $	0.22	0.35	—	S	$I_D = 100 mA, V_{DS} = 10 V^{*2}$
Input capacitance	C_{iss}	—	45	—	pF	$V_{DS} = 10 V, V_{GS} = 0,$ $f = 1 MHz$
Output capacitance	C_{oss}	—	33	—	pF	
Reverse transfer capacitance	C_{rss}	—	9.6	—	pF	$V_{GS} = 5 V, I_D = 100 mA,$ $R_L = 100 \Omega$
Turn-on delay time	$t_{d(on)}$	—	20	—	ns	
Rise time	t_r	—	60	—	ns	
Turn-off delay time	$t_{d(off)}$	—	240	—	ns	
Fall time	t_f	—	140	—	ns	

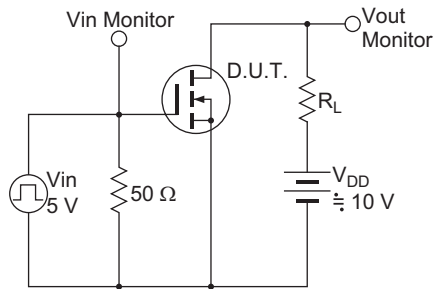
Notes: 2. Pulse test

Main Characteristics

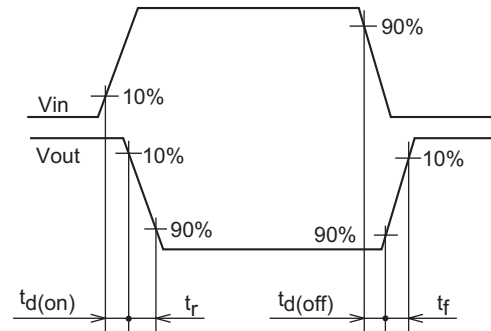




Switching Time Test Circuit



Waveform



Not recommend
for new design

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