

2SJ486

Silicon P Channel MOS FET

REJ03G0869-0300
(Previous: ADE-208-512A)
Rev.3.00
Sep 07, 2005

Description

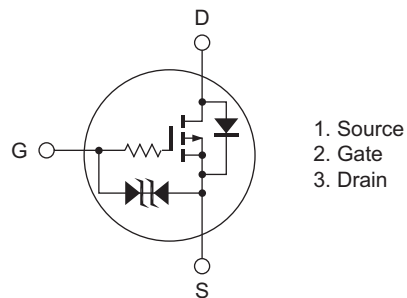
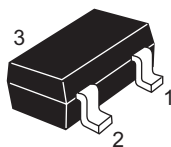
Low frequency power switching

Features

- Low on-resistance
 $R_{DS(on)} = 0.5 \Omega$ typ. (at $V_{GS} = -4 \text{ V}$, $I_D = -100 \text{ mA}$)
- 2.5 V gate drive devices.
- Small package (MPAK).

Outline

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



Note: Marking is "ZU-".

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Drain to source voltage	V_{DS}	-30	V
Gate to source voltage	V_{GS}	± 10	V
Drain current	I_D	-0.3	A
Drain peak current	$I_{D(pulse)}$ ^{Note 1}	-0.6	A
Channel dissipation	Pch	150	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

Note: 1. PW ≤ 100 μs, duty cycle ≤ 10%

Electrical Characteristics

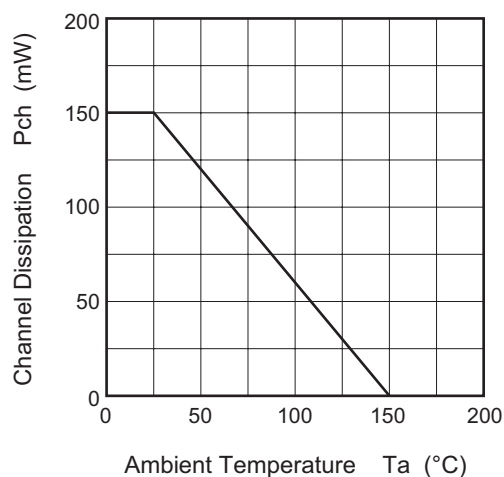
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DS}$	-30	—	—	V	$I_D = -10 \mu A, V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GS}$	± 10	—	—	V	$I_G = \pm 100 \mu A, V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	-1.0	μA	$V_{DS} = -30 V, V_{GS} = 0$
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	$R_{DS(on)}$	—	0.5	0.65	Ω	$I_D = -100 mA, V_{GS} = -4 V$ ^{Note 2}
	$R_{DS(on)}$	—	0.7	1.2	Ω	$I_D = -100 mA, V_{GS} = -2.5 V$ ^{Note 2}
Forward transfer admittance	$ y_{fs} $	0.4	0.65	—	S	$I_D = -100 mA, V_{DS} = -10 V$ ^{Note 2}
Input capacitance	C_{iss}	—	45	—	pF	$V_{DS} = -10 V$
Output capacitance	C_{oss}	—	76	—	pF	$V_{GS} = 0$
Reverse transfer capacitance	C_{rss}	—	5.4	—	pF	$f = 1 MHz$
Turn-on delay time	$t_{d(on)}$	—	120	—	ns	$V_{GS} = -4 V$
Rise time	t_r	—	340	—	ns	$I_D = -150 mA$
Turn-off delay time	$t_{d(off)}$	—	850	—	ns	$R_L = 66.6 \Omega$
Fall time	t_f	—	550	—	ns	

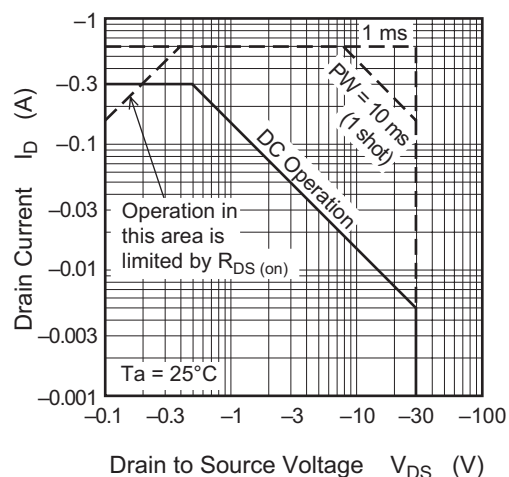
Note: 2. Pulse test

Main Characteristics

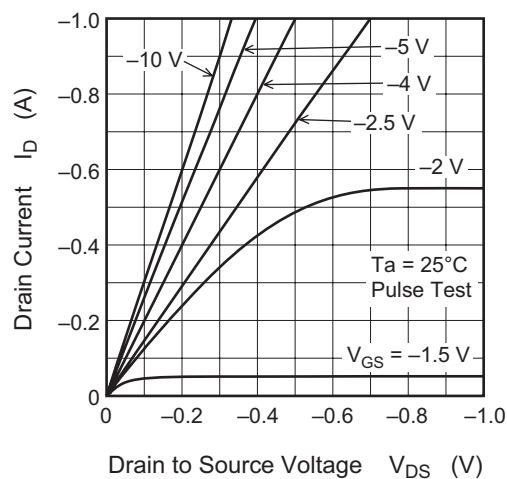
Power vs. Temperature Derating



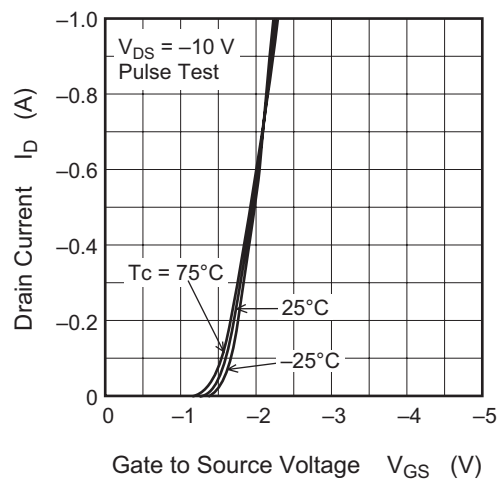
Maximum Safe Operation Area



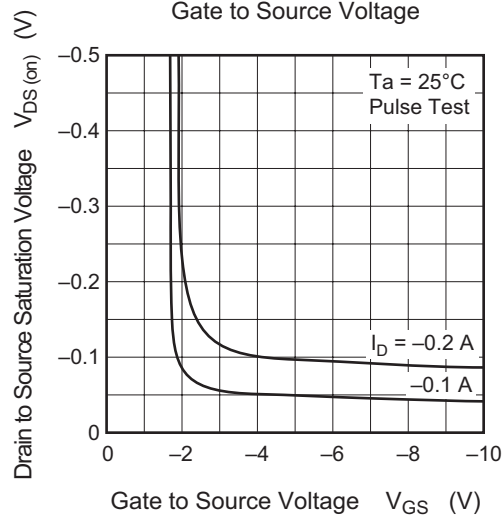
Typical Output Characteristics



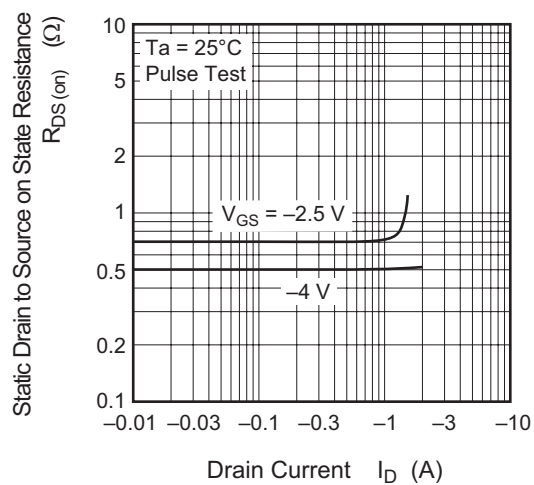
Typical Transfer Characteristics



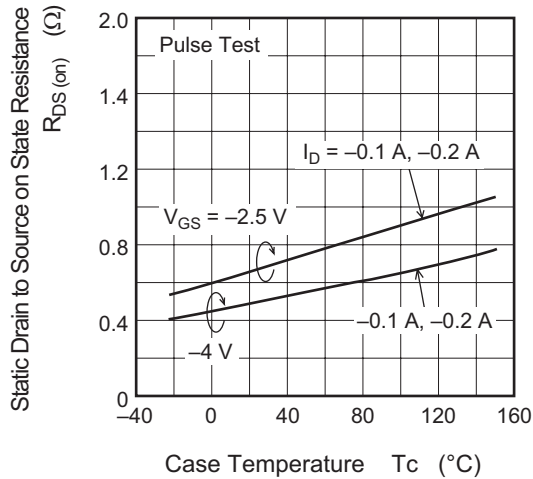
Drain to Source Saturation Voltage vs. Gate to Source Voltage



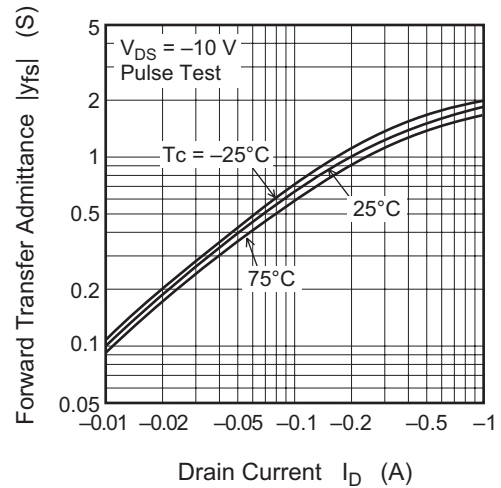
Static Drain to Source on State Resistance vs. Drain Current



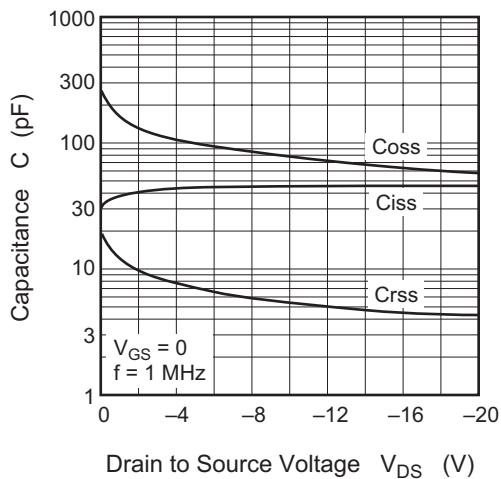
Static Drain to Source on State Resistance vs. Temperature



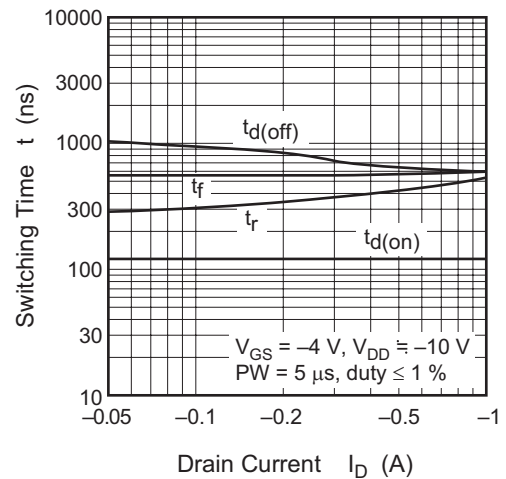
Forward Transfer Admittance vs. Drain Current



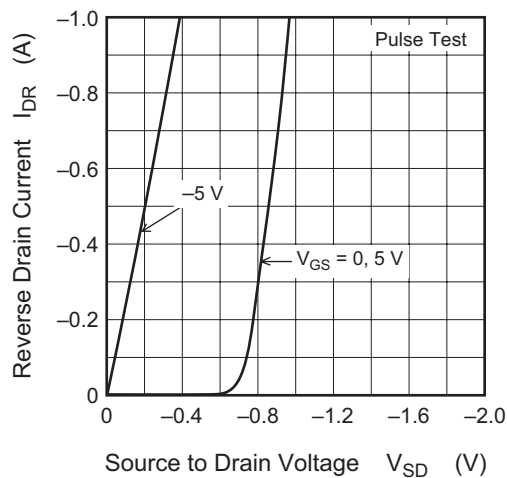
Typical Capacitance vs. Drain to Source Voltage

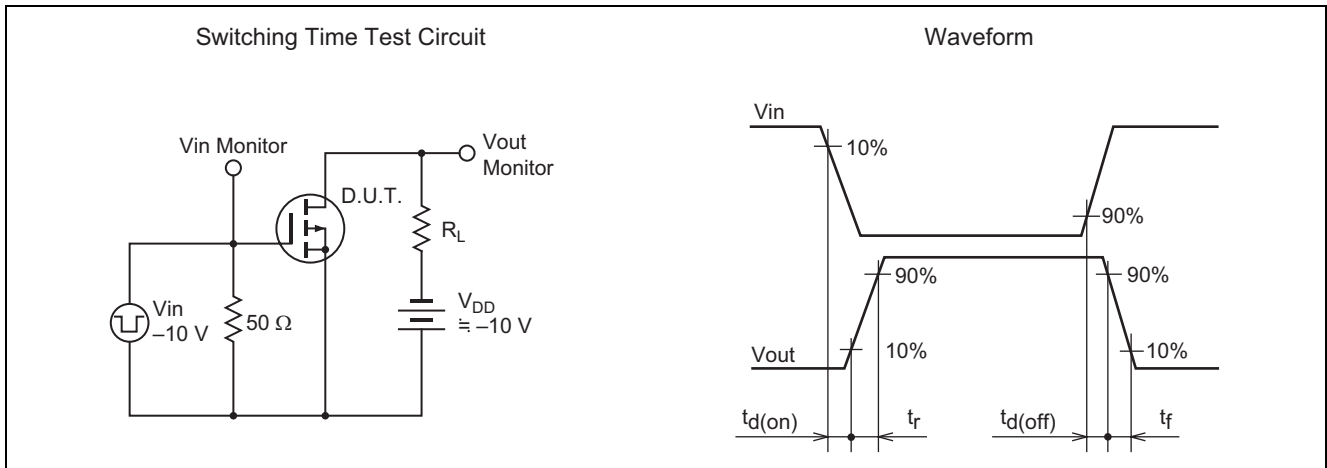


Switching Characteristics

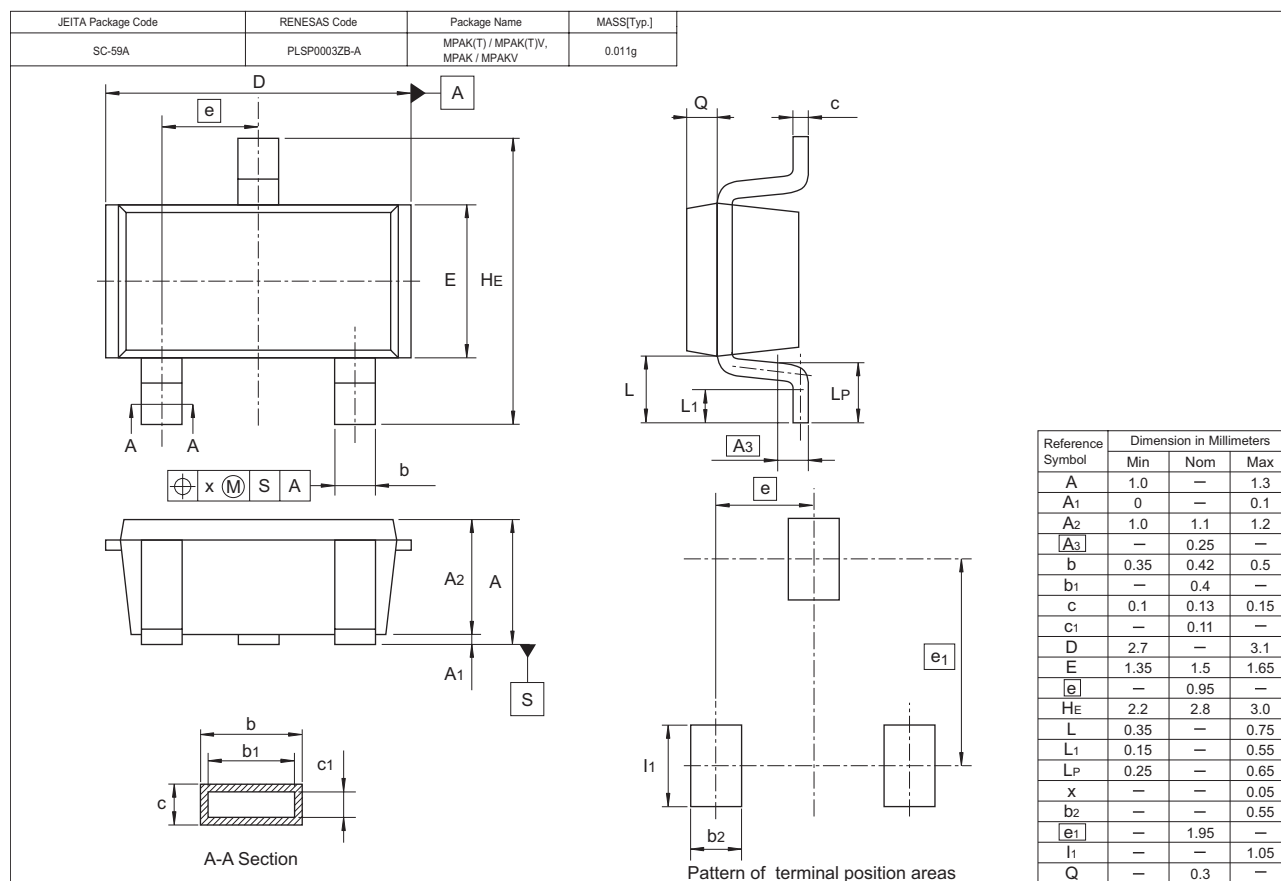


Reverse Drain Current vs. Source to Drain Voltage





Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SJ486ZU-TL-E	3000 pcs	Taping
2SJ486ZU-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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