

2SJ317

Silicon P Channel MOS FET

REJ03G0857-0200
(Previous: ADE-208-1191)
Rev.2.00
Sep 07, 2005

Description

High speed power switching

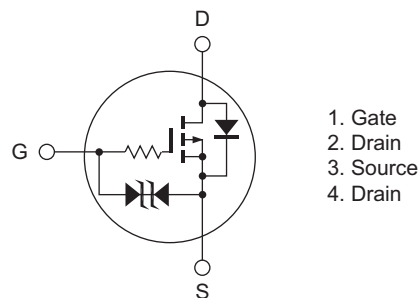
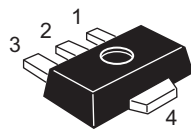
Low voltage operation

Features

- Very low on-resistance
- High speed switching
- Suitable for camera or VTR motor drive circuit, power switch, solenoid drive and etc.

Outline

RENESAS Package code: PLZZ0004CA-A
(Package name: UPAK®)



1. Gate
2. Drain
3. Source
4. Drain

Note: Marking is "NY".

*UPAK is a trademark of Renesas Technology Corp.

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Drain to source voltage	V_{DS}	-12	V
Gate to source voltage	V_{GS}	-7	V
Drain current	I_D	± 2	A
Drain peak current	$I_{D (pulse)}$ ^{Note 1}	± 4	A
Body to drain diode reverse drain current	I_{DR}	2	A
Channel dissipation	P_{ch} ^{Note 2}	1	W
Channel temperature	T_{ch}	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Notes: 1. $PW \leq 100 \mu s$, duty cycle $\leq 10\%$ 2. Value on the alumina ceramic board ($12.5 \times 20 \times 0.7$ mm)

Electrical Characteristics

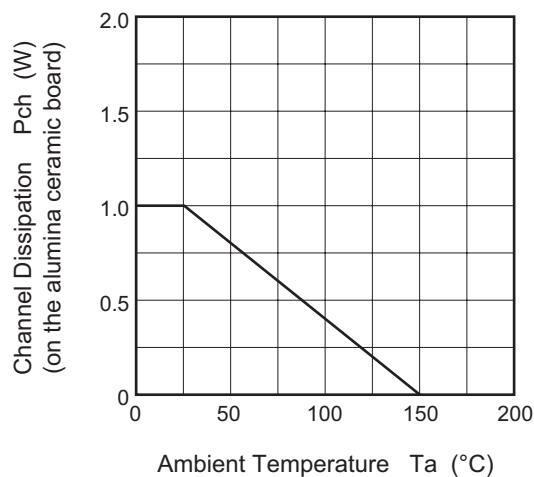
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR) DSS}$	-12	—	—	V	$I_D = -1$ mA, $V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR) GSS}$	± 7	—	—	V	$I_G = \pm 10 \mu A$, $V_{DS} = 0$
Gate to source leak current	I_{GSS}	—	—	± 5	μA	$V_{GS} = \pm 6.5$ V, $V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	-1	μA	$V_{DS} = -8$ V, $V_{GS} = 0$
Gate to source cutoff voltage	$V_{GS (off)}$	-0.4	—	-1.4	V	$I_D = -100 \mu A$, $V_{DS} = -5$ V
Static drain to source on state resistance	$R_{DS (on) 1}$	—	0.4	0.7	Ω	$I_D = -0.5$ A, $V_{GS} = -2.2$ V ^{Note 3}
	$R_{DS (on) 2}$	—	0.28	0.35	Ω	$I_D = -1$ A, $V_{GS} = -4$ V ^{Note 3}
Forward transfer admittance	$ y_{fs} $	1.0	2.3	—	S	$I_D = -1$ A, $V_{DS} = -5$ V ^{Note 3}
Input capacitance	C_{iss}	—	63	—	pF	$V_{DS} = -5$ V
Output capacitance	C_{oss}	—	180	—	pF	$V_{GS} = 0$
Reverse transfer capacitance	C_{rss}	—	23	—	pF	$f = 1$ MHz
Turn-on delay time	$t_{d (on)}$	—	500	—	ns	$I_D = -0.2$ A
Turn-off delay time	$t_{d (off)}$	—	2860	—	ns	$V_{in} = -4$ V, $R_L = 51 \Omega$

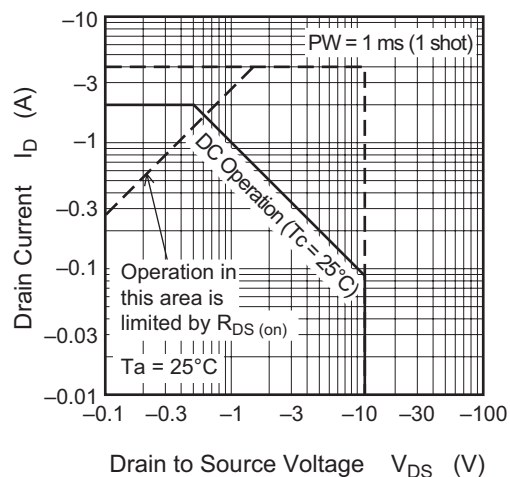
Note: 3. Pulse test

Main Characteristics

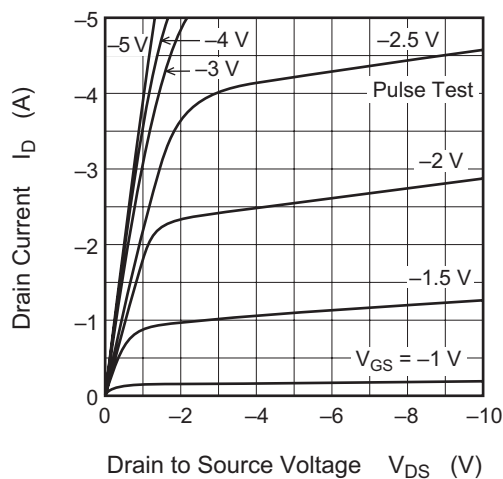
Power vs. Temperature Derating



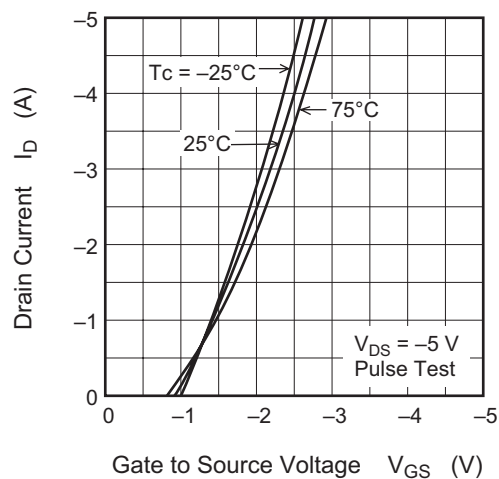
Maximum Safe Operation Area



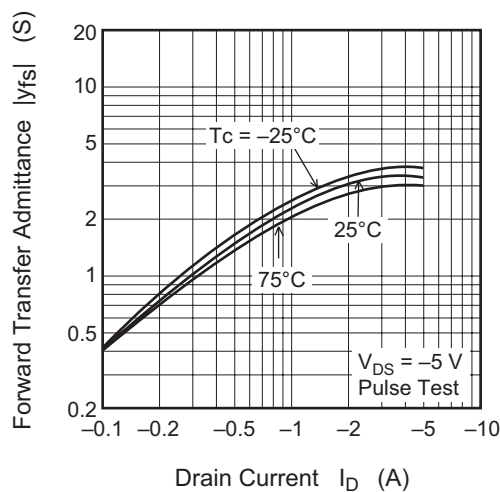
Typical Output Characteristics



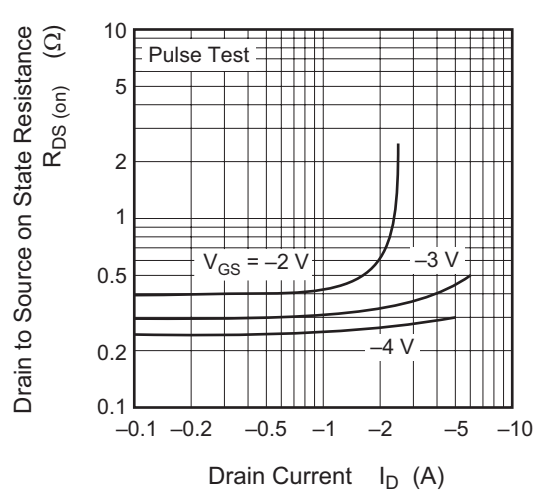
Typical Forward Transfer Characteristics

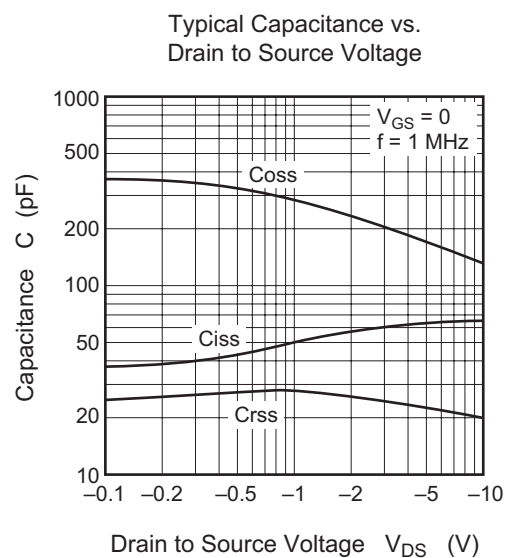
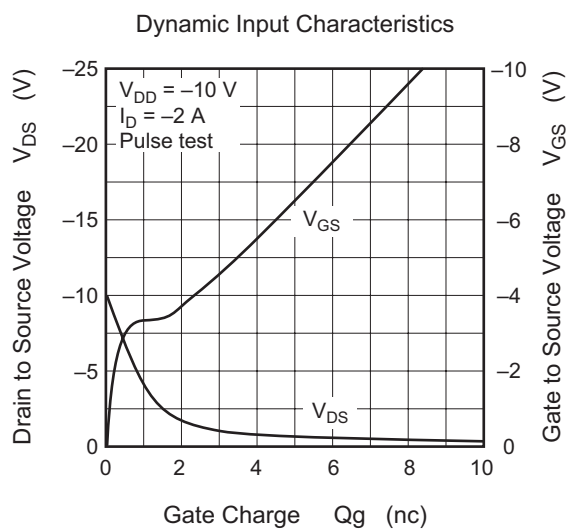
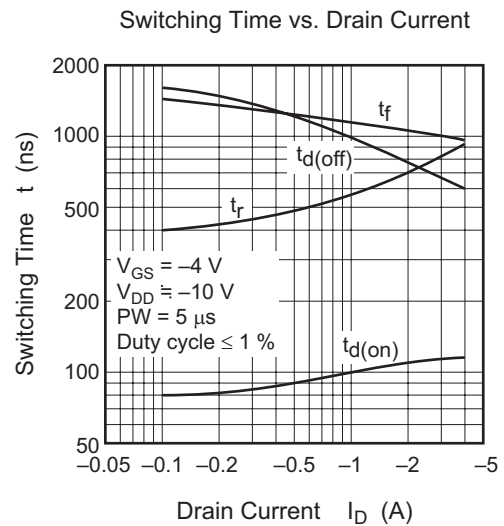
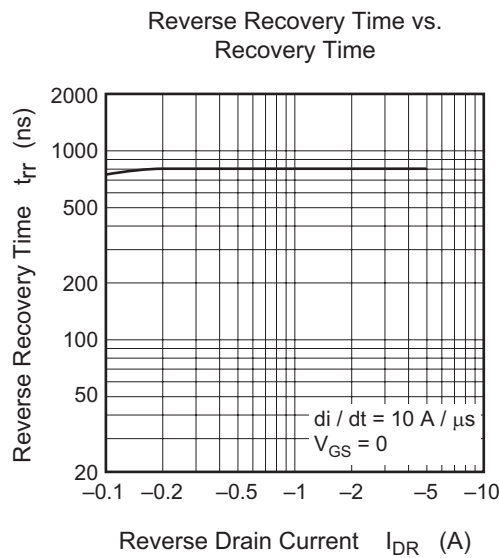
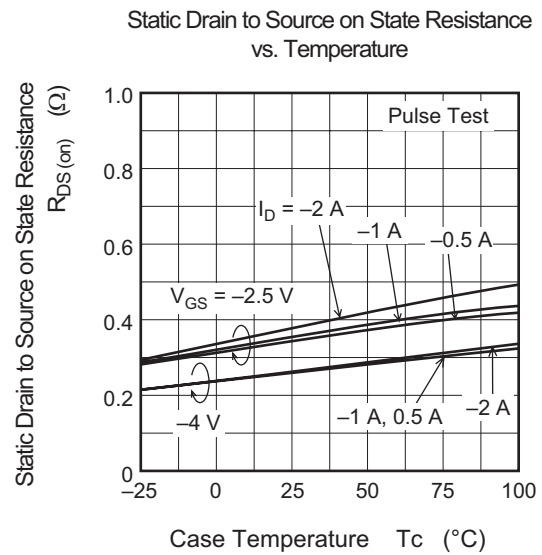
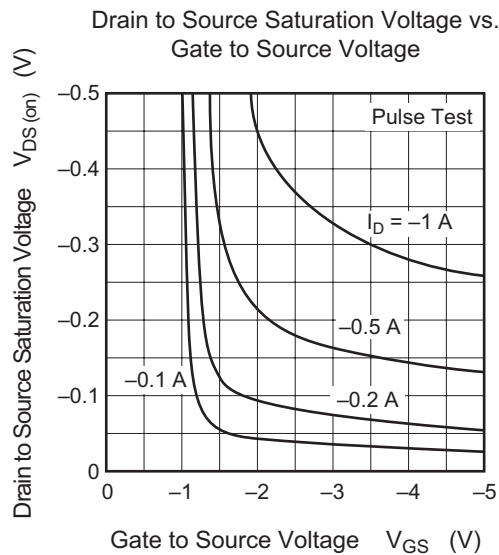


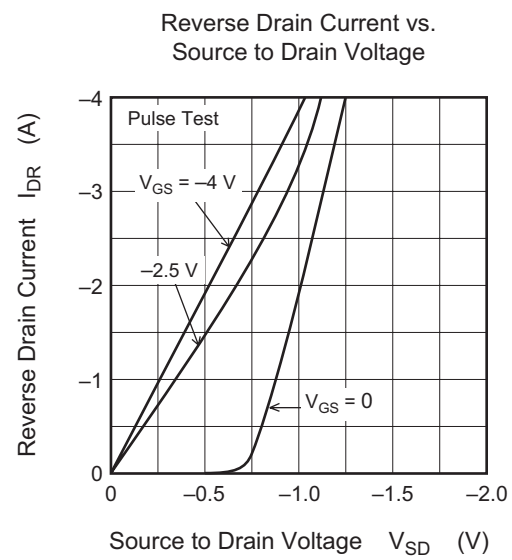
Forward Transfer Admittance vs. Drain Current



Drain to Source on State Resistance vs. Drain Current







Package Dimensions

JEITA Package Code	RENEAS Code	Package Name	MASS[Typ.]	Unit: mm
SC-62	PLZZ0004CA-A	UPAK / UPAKV	0.050g	

The drawing shows three views of the 2SJ317 package:

- Top View:** A rectangular package with a central circular feature. Dimensions include a total width of 4.5 ± 0.1 mm, a maximum width of 1.8 mm, a central diameter of $\phi 1$ mm, and a maximum height of 0.53 mm. The distance between the two mounting tabs is 3.0 mm, with each tab being 1.5 mm wide. The minimum height of the mounting tabs is 0.8 mm.
- Side View:** Shows the profile of the package with a maximum height of 1.5 ± 0.1 mm and a maximum width of 0.44 mm.
- Front View:** Shows the package from the front with a maximum width of 1.5 mm and a maximum height of 0.4 mm.

Ordering Information

Part Name	Quantity	Shipping Container
2SJ317NYTL-E	1000 pcs	Taping
2SJ317NYTR-E	1000 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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