

2SK1697

Silicon N-Channel MOS FET

REJ03G1373-0200
 (Previous: ADE-208-1313)
 Rev.2.00
 May 11, 2006

Application

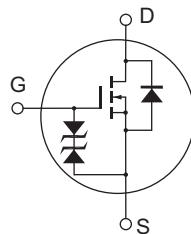
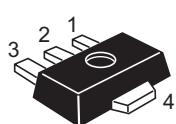
High speed power switching

Features

- Low on-resistance
- High speed switching
- Low drive current
- 4 V gate drive device can be driven from 5 V source.
- Suitable for DC – DC converter, motor drive, power switch, solenoid drive

Outline

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



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

Note: Marking is "EY".

*UPAK is a trademark of Renesas Technology Corp.

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	60	V
Gate to source voltage	V _{GSS}	±20	V
Drain current	I _D	0.5	A
Drain peak current	I _{D(pulse)} ^{*1}	1.5	A
Body to drain diode reverse drain current	I _{DR}	0.5	A
Channel dissipation	P _{ch} ^{*2}	1	W
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

Notes: 1. PW ≤ 10 µs, duty cycle ≤ 1%

2. When using the alumina ceramic board (12.5 × 20 × 0.7 mm)

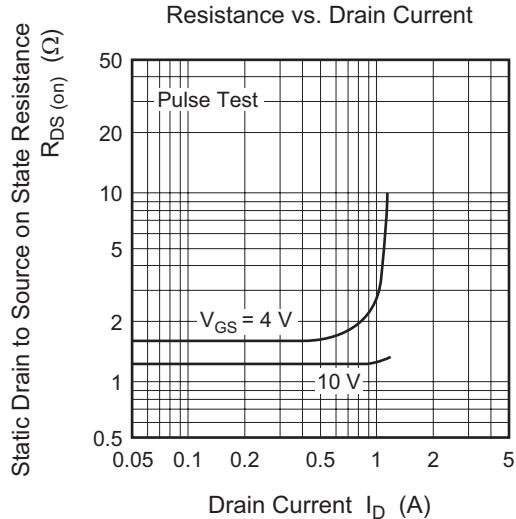
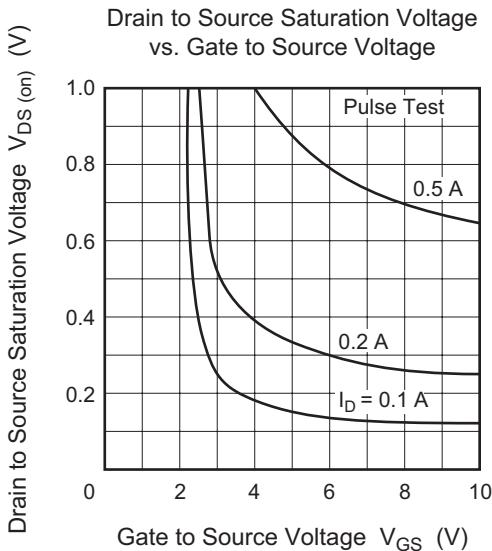
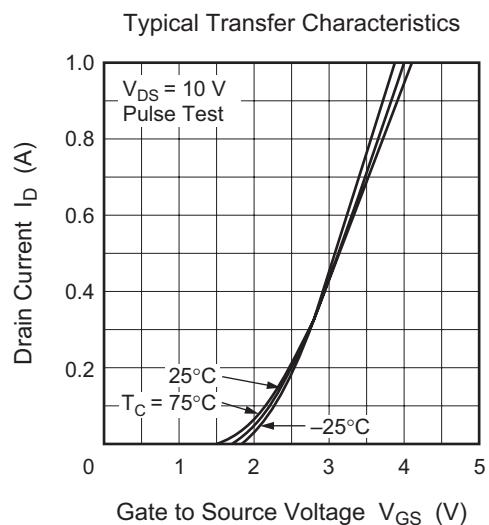
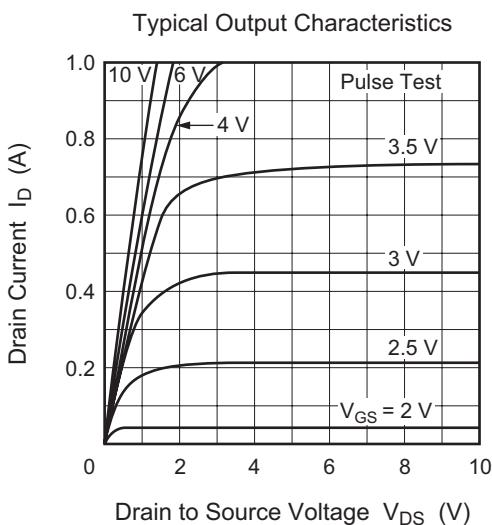
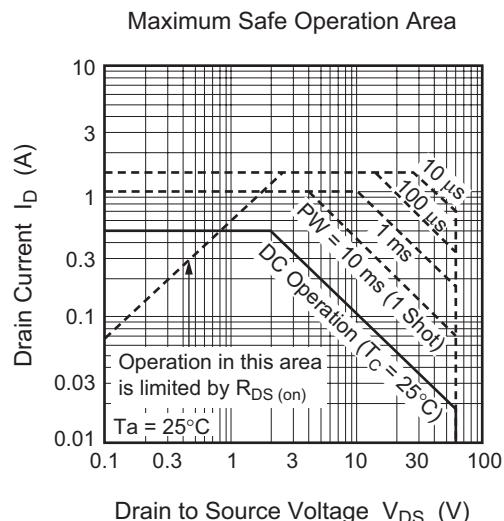
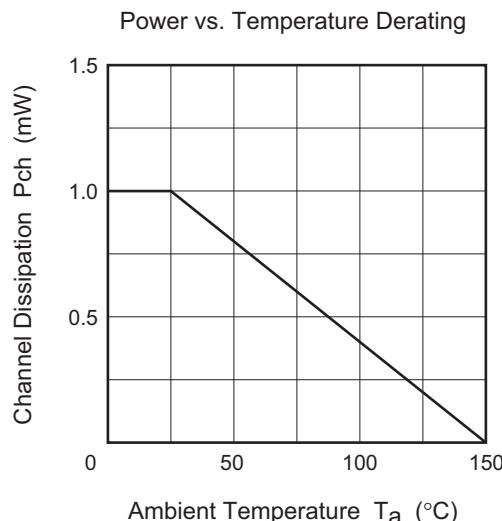
Electrical Characteristics

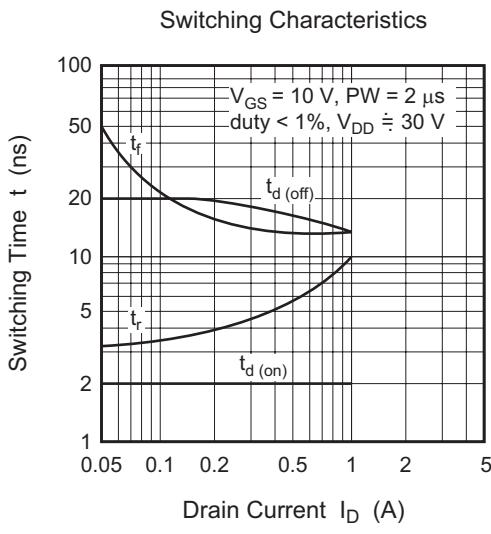
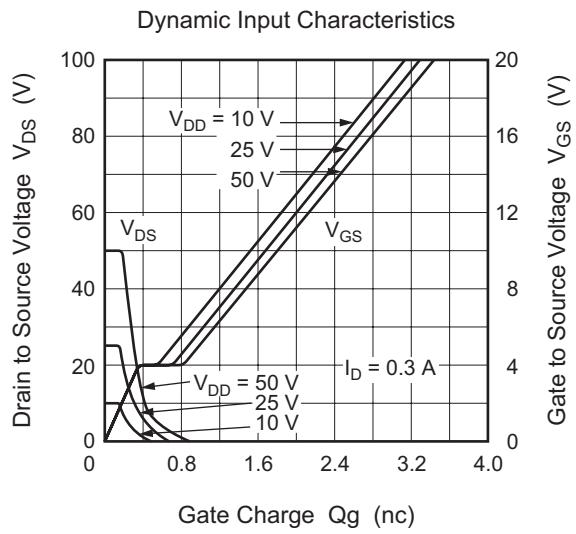
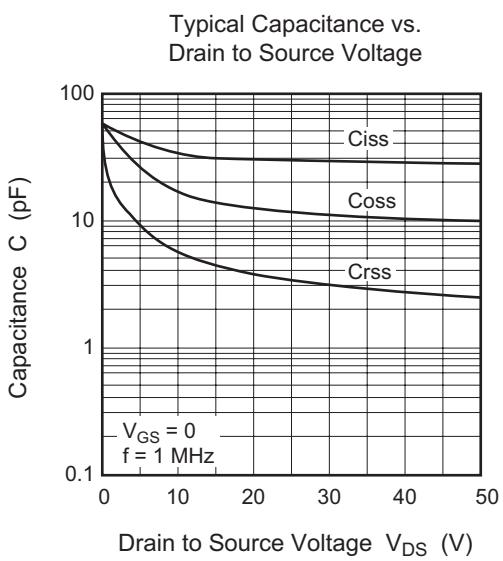
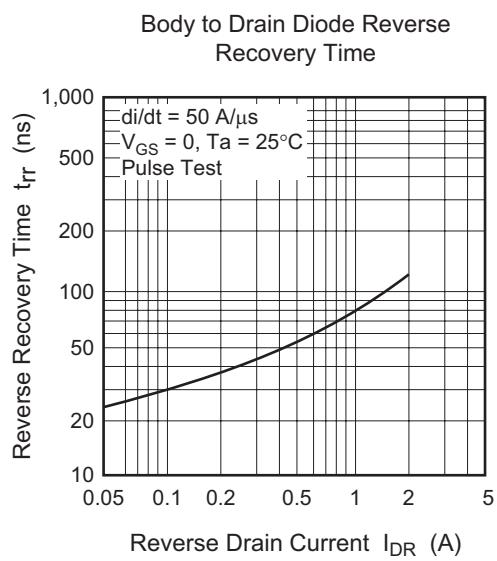
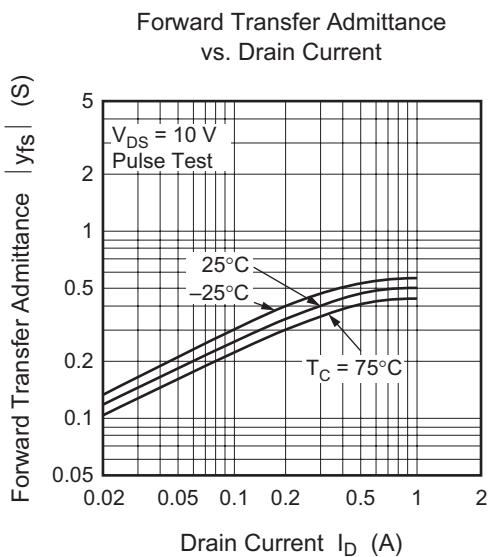
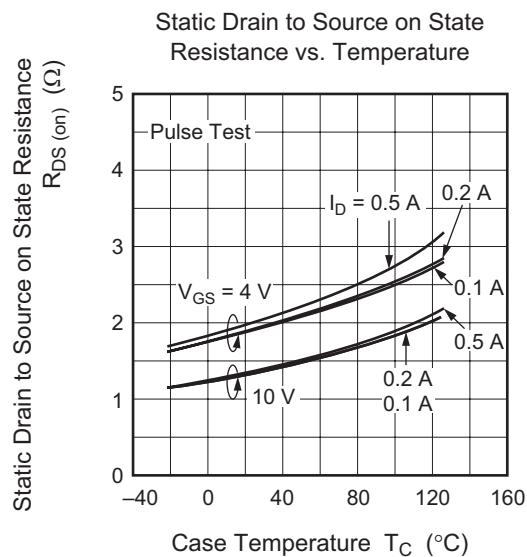
(Ta = 25°C)

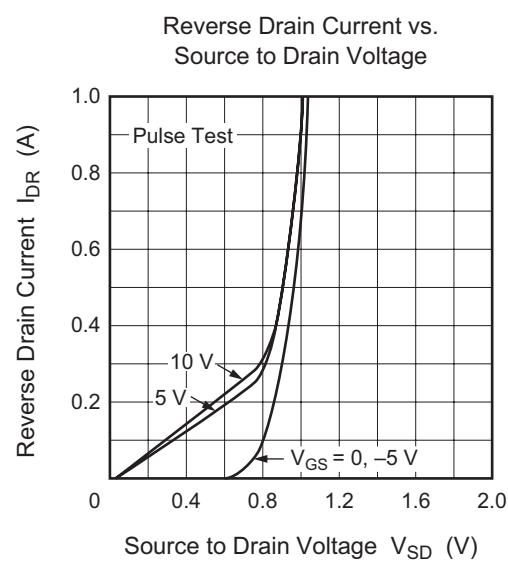
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	60	—	—	V	$I_D = 10 \text{ mA}, V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	± 20	—	—	V	$I_G = \pm 100 \mu\text{A}, V_{DS} = 0$
Gate to source leak current	I_{GSS}	—	—	± 10	μA	$V_{GS} = \pm 16 \text{ V}, V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	50	μA	$V_{DS} = 50 \text{ V}, V_{GS} = 0$
Gate to source cutoff voltage	$V_{GS(\text{off})}$	1.0	—	2.0	V	$I_D = 1 \text{ mA}, V_{DS} = 10 \text{ V}$
Static drain to source on state resistance	$R_{DS(\text{on})}$	—	1.3	1.7	Ω	$I_D = 0.3 \text{ A}, V_{GS} = 10 \text{ V}^{*1}$
		—	1.8	2.5	Ω	$I_D = 0.3 \text{ A}, V_{GS} = 4 \text{ V}^{*1}$
Forward transfer admittance	$ y_{fs} $	0.25	0.38	—	S	$I_D = 0.3 \text{ A}, V_{DS} = 10 \text{ V}^{*1}$
Input capacitance	C_{iss}	—	33	—	pF	$V_{DS} = 10 \text{ V}, V_{GS} = 0,$ $f = 1 \text{ MHz}$
Output capacitance	C_{oss}	—	17	—	pF	
Reverse transfer capacitance	C_{rss}	—	5	—	pF	
Turn-on delay time	$t_{d(\text{on})}$	—	3	—	ns	$I_D = 0.3 \text{ A}, V_{GS} = 10 \text{ V},$ $R_L = 100 \Omega$
Rise time	t_r	—	8	—	ns	
Turn-off delay time	$t_{d(\text{off})}$	—	18	—	ns	
Fall time	t_f	—	14	—	ns	
Body to drain diode forward voltage	V_{DF}	—	1	—	V	$I_F = 0.5 \text{ A}, V_{GS} = 0$
Body to drain diode reverse recovery time	t_{rr}	—	45	—	ns	$I_F = 0.5 \text{ A}, V_{GS} = 0,$ $di_F/dt = 50 \text{ A}/\mu\text{s}$

Note: 1. Pulse test

Main Characteristics







Package Dimensions

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

Ordering Information

Part Name	Quantity	Shipping Container
2SK1697EYTL-E	1000 pcs	φ178 mm Reel, 12 mm Emboss Taping
2SK1697EYTR-E		

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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