

# 2SK2220, 2SK2221

## Silicon N Channel MOS FET

REJ03G1004-0200  
(Previous: ADE-208-1352)  
Rev.2.00  
Sep 07, 2005

### Application

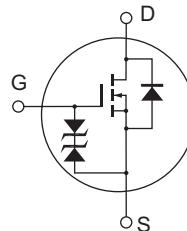
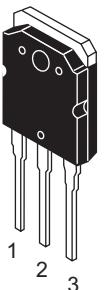
Low frequency power amplifier  
Complementary pair with 2SJ351, 2SJ352

### Features

- High power gain
- Excellent frequency response
- High speed switching
- Wide area of safe operation
- Enhancement-mode
- Good complementary characteristics
- Equipped with gate protection diodes

### Outline

RENESAS Package code: PRSS0004ZE-A  
(Package name: TO-3P)



1. Gate
2. Source (Flange)
3. Drain

**Absolute Maximum Ratings**

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage 2SK2220	V <sub>DSX</sub>	180	V
2SK2221		200	
Gate to source voltage	V <sub>GSS</sub>	±20	V
Drain current	I <sub>D</sub>	8	A
Body to drain diode reverse drain current	I <sub>DR</sub>	8	A
Channel dissipation	P <sub>ch</sub> <sup>*1</sup>	100	W
Channel temperature	T <sub>ch</sub>	150	°C
Storage temperature	T <sub>tsg</sub>	−55 to +150	°C

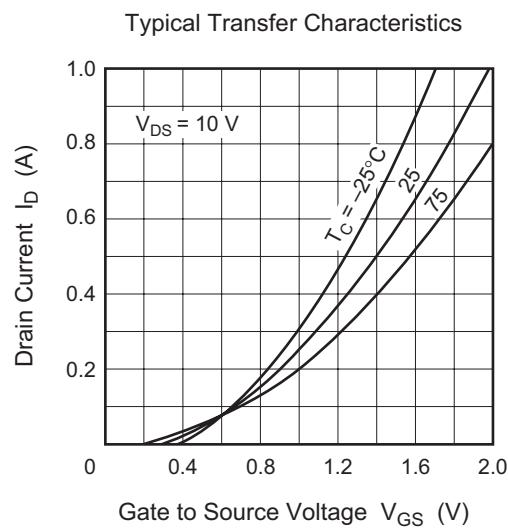
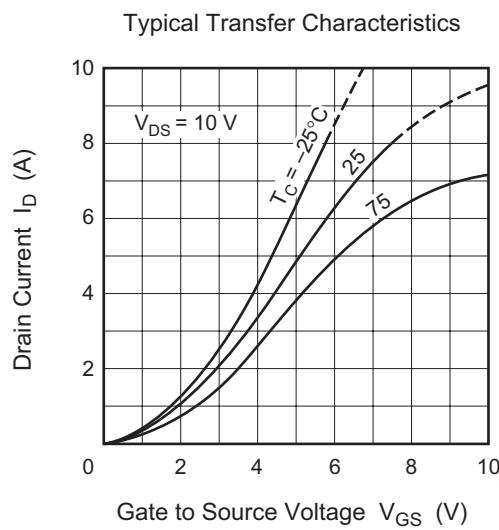
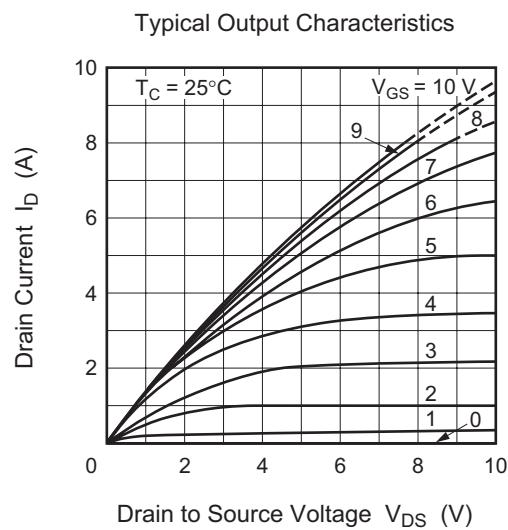
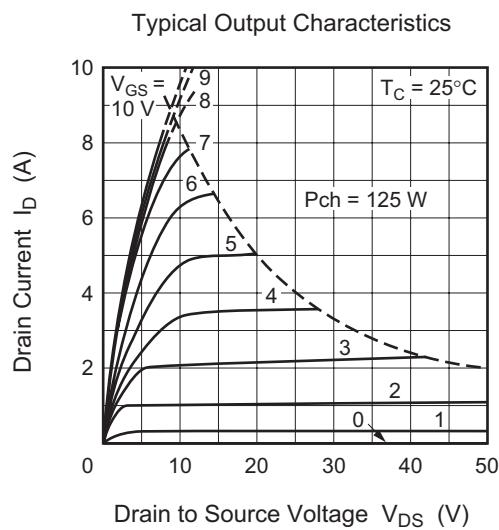
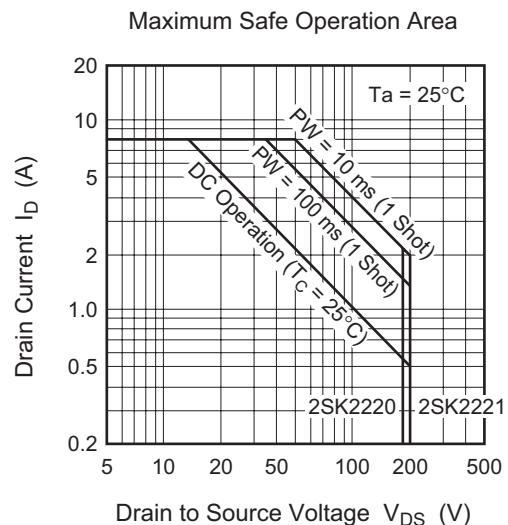
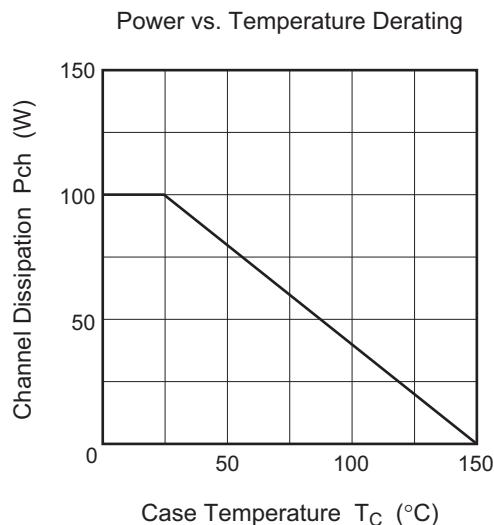
Note: 1. Value at T<sub>c</sub> = 25°C**Electrical Characteristics**

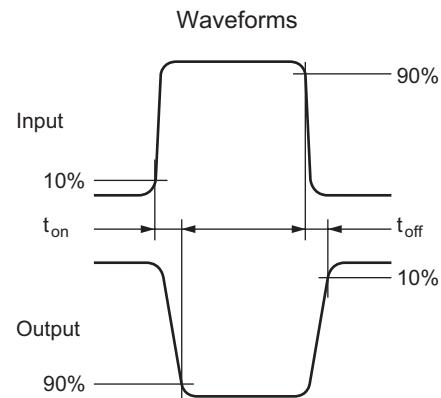
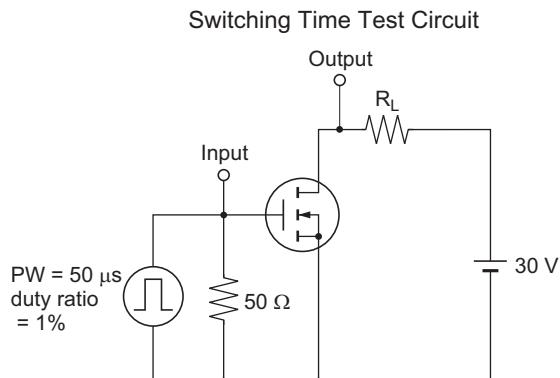
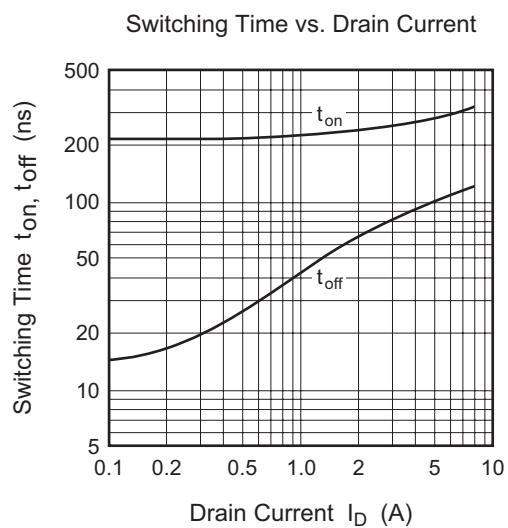
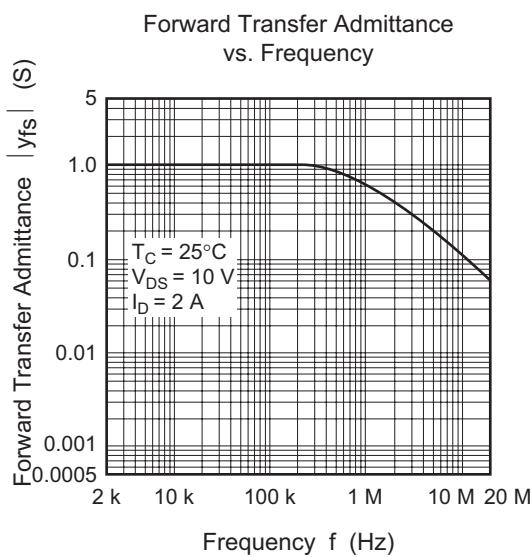
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage 2SK2220	V <sub>(BR)DSX</sub>	180	—	—	V	I <sub>D</sub> = 10 mA, V <sub>GS</sub> = −10 V
2SK2221		200	—	—		
Gate to source breakdown voltage	V <sub>(BR)GSS</sub>	±20	—	—	V	I <sub>G</sub> = ±100 μA, V <sub>DS</sub> = 0
Gate to source cutoff voltage	V <sub>GS(off)</sub>	0.15	—	1.45	V	I <sub>D</sub> = 100 mA, V <sub>DS</sub> = 10 V
Drain to source saturation voltage	V <sub>DS(sat)</sub>	—	—	12	V	I <sub>D</sub> = 8 A, V <sub>GD</sub> = 0 V <sup>*2</sup>
Forward transfer admittance	y <sub>fs</sub>	0.7	1.0	1.4	S	I <sub>D</sub> = 3 A, V <sub>DS</sub> = 10 V <sup>*2</sup>
Input capacitance	C <sub>iss</sub>	—	600	—	pF	V <sub>GS</sub> = −5 V, V <sub>DS</sub> = 10 V, f = 1 MHz
Output capacitance	C <sub>oss</sub>	—	800	—	pF	
Reverse transfer capacitance	C <sub>rss</sub>	—	8	—	pF	
Turn-on time	t <sub>on</sub>	—	250	—	ns	V <sub>DD</sub> = 30 V, I <sub>D</sub> = 4 A
Turn-off time	t <sub>off</sub>	—	90	—	ns	

Note: 2. Pulse Test

## Main Characteristics





## Package Dimensions

JEITA Package Code	RENESAS Code	Package Name	MASS[Typ.]
SC-65	PRSS0004ZE-A	TO-3P / TO-3PV	5.0g

Unit: mm

## Ordering Information

Part Name	Quantity	Shipping Container
2SK2220-E	360 pcs	Box (Tube)
2SK2221-E	360 pcs	Box (Tube)

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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450 Holger Way, San Jose, CA 95134-1368, U.S.A  
Tel: <1> (408) 382-7500, Fax: <1> (408) 382-7501

**Renesas Technology Europe Limited**  
Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K.  
Tel: <44> (1628) 585-100, Fax: <44> (1628) 585-900

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**Renesas Technology Taiwan Co., Ltd.**  
10th Floor, No.99, Fushing North Road, Taipei, Taiwan  
Tel: <886> (2) 2715-2888, Fax: <886> (2) 2713-2999

**Renesas Technology (Shanghai) Co., Ltd.**  
Unit2607 Ruijing Building, No.205 Maoming Road (S), Shanghai 200020, China  
Tel: <86> (21) 6472-1001, Fax: <86> (21) 6415-2952

**Renesas Technology Singapore Pte. Ltd.**  
1 Harbour Front Avenue, #06-10, Keppel Bay Tower, Singapore 098632  
Tel: <65> 6213-0200, Fax: <65> 6278-8001

**Renesas Technology Korea Co., Ltd.**  
Kukje Center Bldg. 18th Fl., 191, 2-ka, Hangang-ro, Yongsan-ku, Seoul 140-702, Korea  
Tel: <82> 2-796-3115, Fax: <82> 2-796-2145

**Renesas Technology Malaysia Sdn. Bhd.**  
Unit 906, Block B, Menara Amcorp, Amcorp Trade Centre, No.18, Jalan Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia  
Tel: <603> 7955-9390, Fax: <603> 7955-9510