

# 2SJ160, 2SJ161, 2SJ162

## Silicon P Channel MOS FET

REJ03G0847-0200  
(Previous: ADE-208-1182)  
Rev.2.00  
Sep 07, 2005

### Description

Low frequency power amplifier

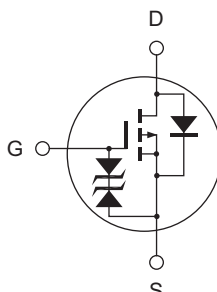
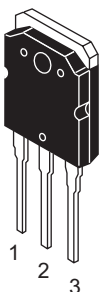
Complementary pair with 2SK1056, 2SK1057 and 2SK1058

### Features

- Good frequency characteristic
- High speed switching
- Wide area of safe operation
- Enhancement-mode
- Good complementary characteristics
- Equipped with gate protection diodes
- Suitable for audio power amplifier

### 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	Value	Unit
Drain to source voltage	2SJ160	-120	V
	2SJ161	-140	
	2SJ162	-160	
Gate to source voltage	V <sub>GSS</sub>	±15	V
Drain current	I <sub>D</sub>	-7	A
Body to drain diode reverse drain current	I <sub>DR</sub>	-7	A
Channel dissipation	P <sub>ch</sub> <sup>Note 1</sup>	100	W
Channel temperature	T <sub>ch</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

Note: 1. Value at Tc = 25°C

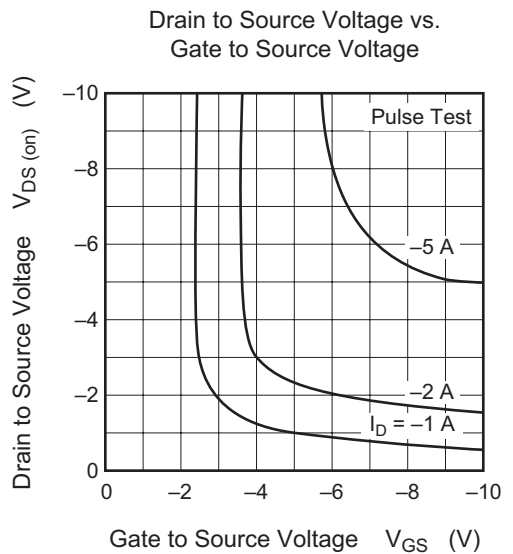
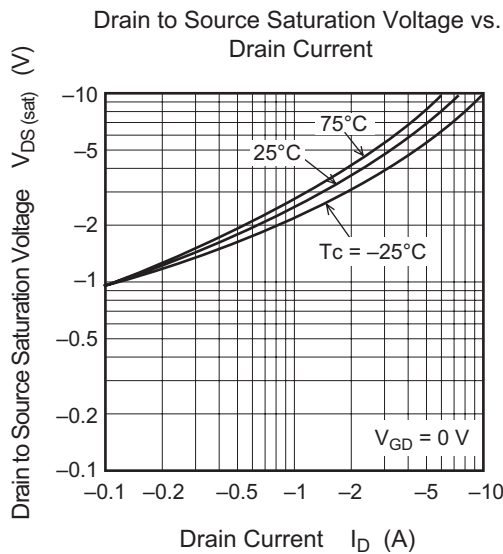
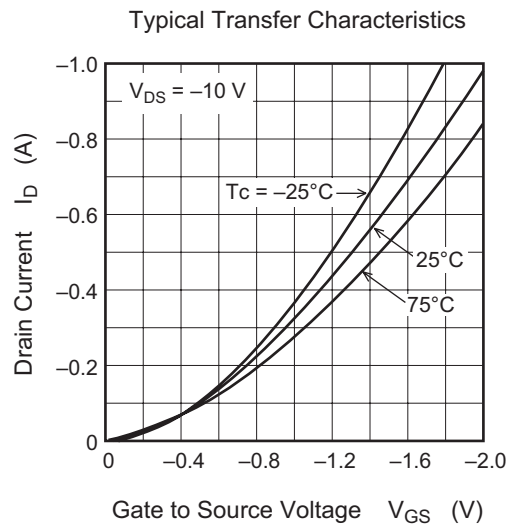
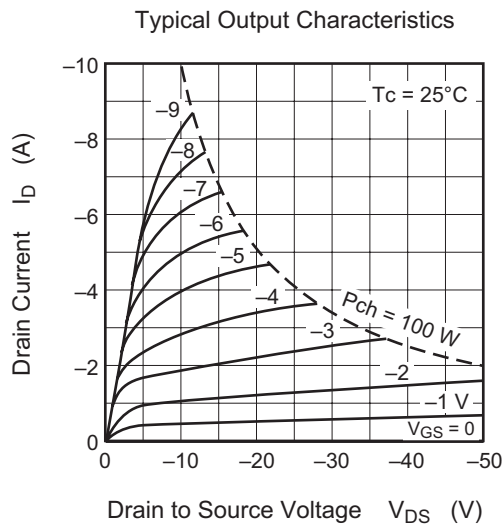
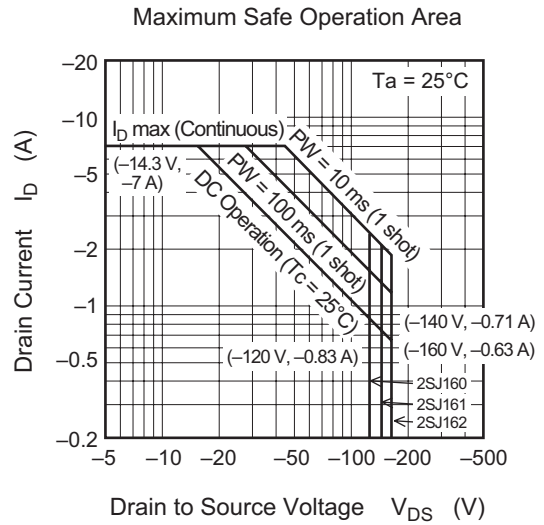
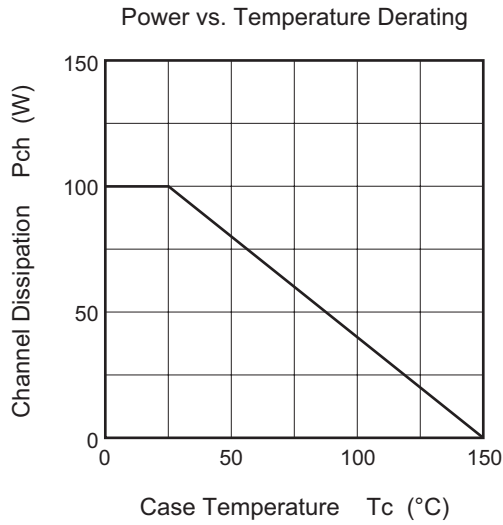
## Electrical Characteristics

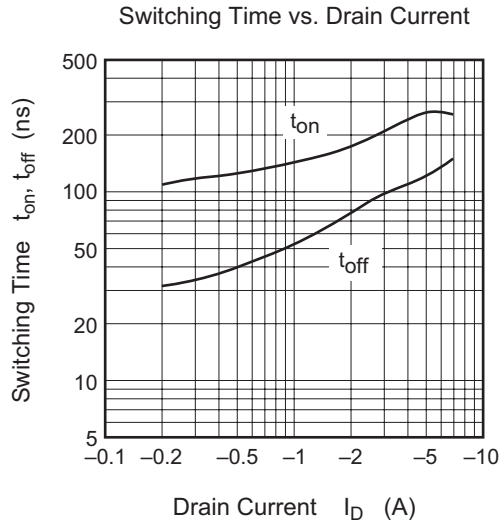
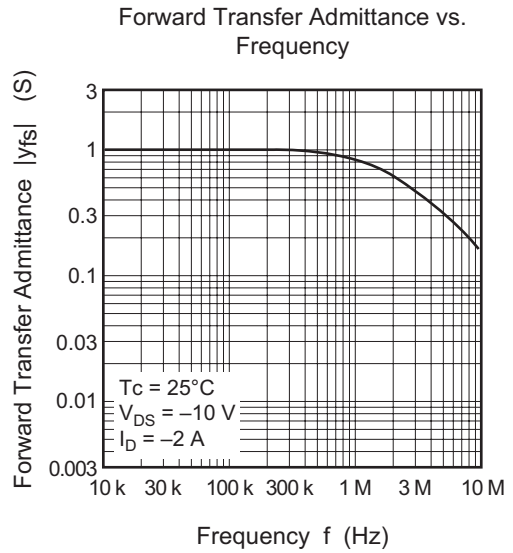
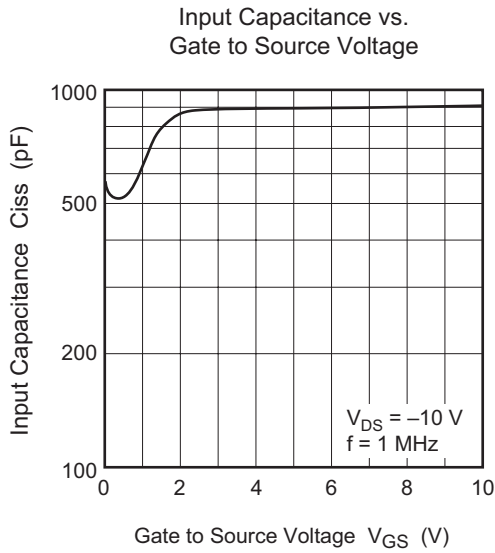
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions	
Drain to source breakdown voltage	2SJ160	V <sub>(BR)DSX</sub>	-120	—	—	V	I <sub>D</sub> = -10 mA, V <sub>GS</sub> = 10 V
	2SJ161		-140	—	—	V	
	2SJ162		-160	—	—	V	
Gate to source breakdown voltage	V <sub>(BR)GSS</sub>	±15	—	—	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> = -7 A, V <sub>GS</sub> = 0 <sup>Note 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>Note 2</sup>	
Input capacitance	C <sub>iss</sub>	—	900	—	pF	V <sub>GS</sub> = 5 V, V <sub>DS</sub> = -10 V, f = 1 MHz	
Output capacitance	C <sub>oss</sub>	—	400	—	pF		
Reverse transfer capacitance	C <sub>rss</sub>	—	40	—	pF		
Turn-on time	t <sub>on</sub>	—	230	—	ns	V <sub>DD</sub> = -20 V I <sub>D</sub> = -4 A	
Turn-off time	t <sub>off</sub>	—	110	—	ns		

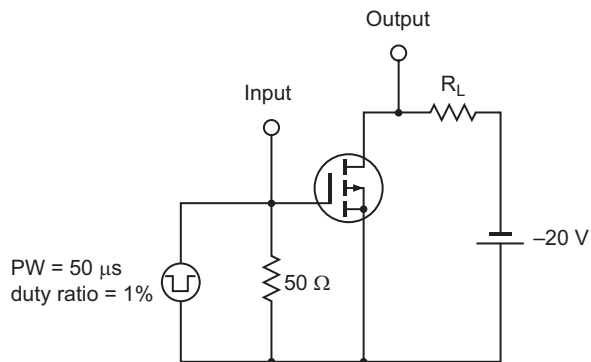
Note: 2. Pulse test

Main Characteristics

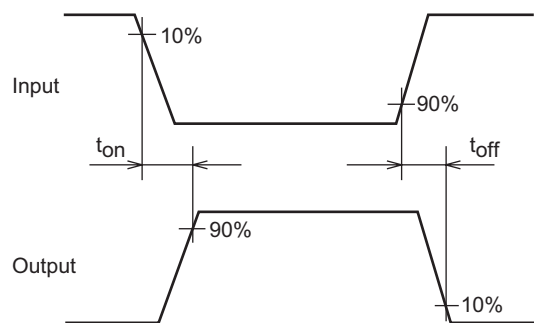




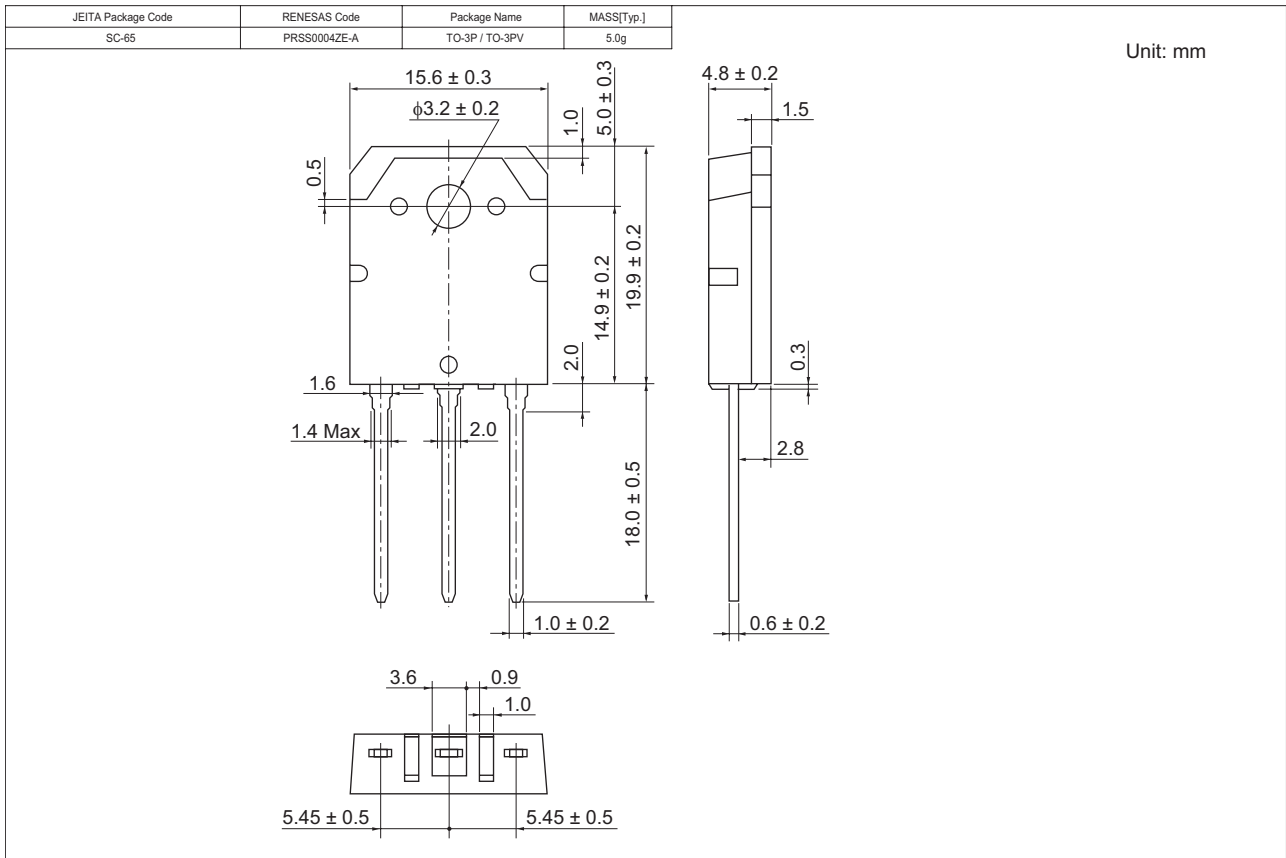
Switching Time Test Circuit



Waveform



### Package Dimensions



### Ordering Information

Part Name	Quantity	Shipping Container
2SJ160-E	360 pcs	Box (Tube)
2SJ161-E	360 pcs	Box (Tube)
2SJ162-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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