

# 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

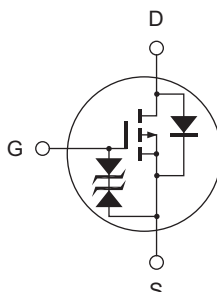
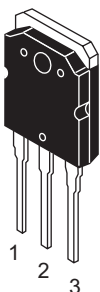
Complementary pair with 2SK1056, 2SK1057 and 2SK1058

### 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	$V_{DSX}$	-120	V
	2SJ161		-140	
	2SJ162		-160	
Gate to source voltage		$V_{GSS}$	±15	V
Drain current		$I_D$	-7	A
Body to drain diode reverse drain current		$I_{DR}$	-7	A
Channel dissipation		$P_{ch}$ <sup>Note 1</sup>	100	W
Channel temperature		$T_{ch}$	150	°C
Storage temperature		$T_{stg}$	-55 to +150	°C

Note: 1. Value at Tc = 25°C

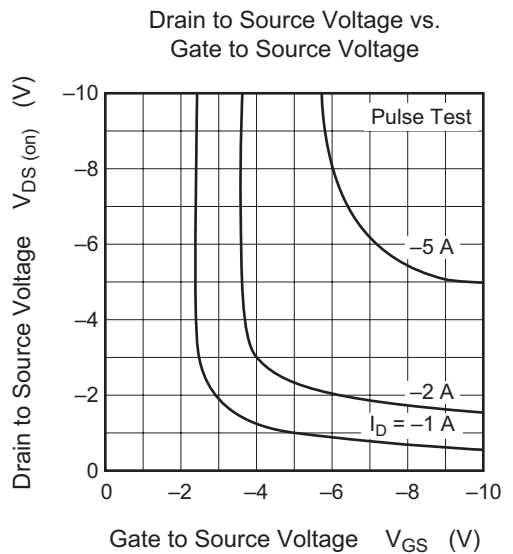
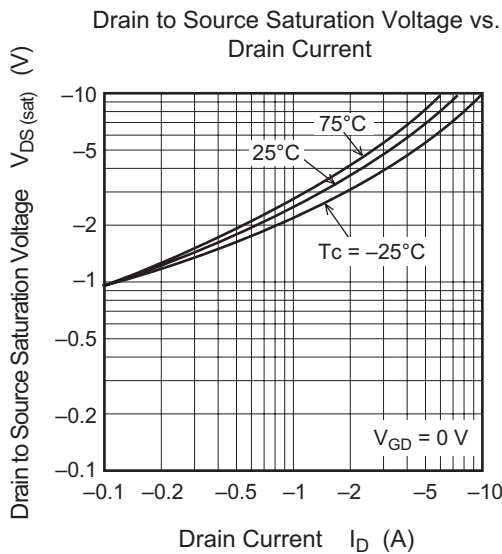
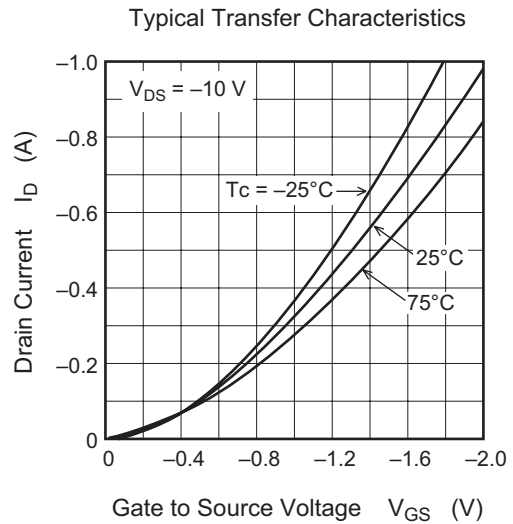
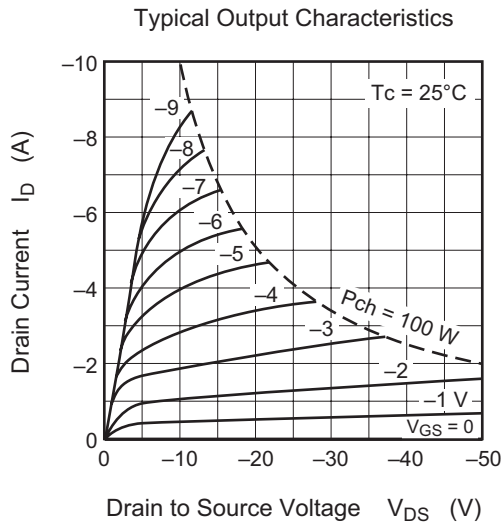
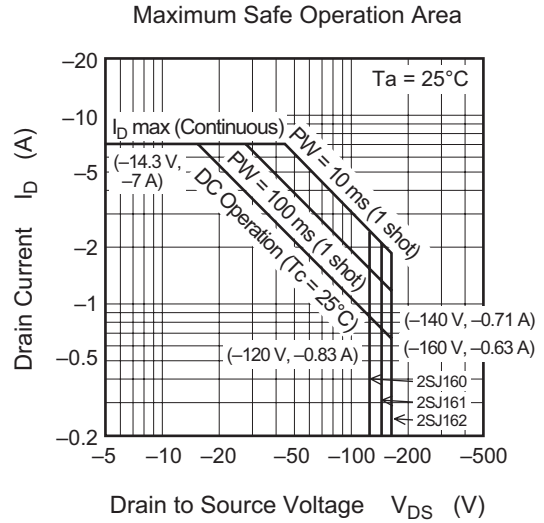
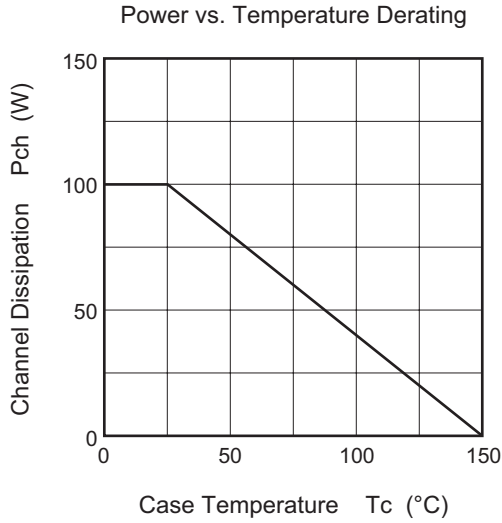
## Electrical Characteristics

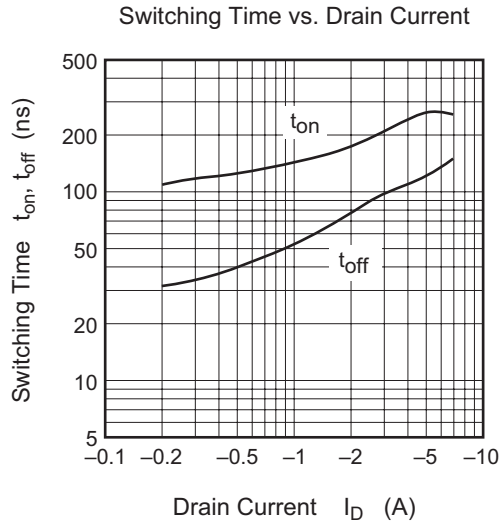
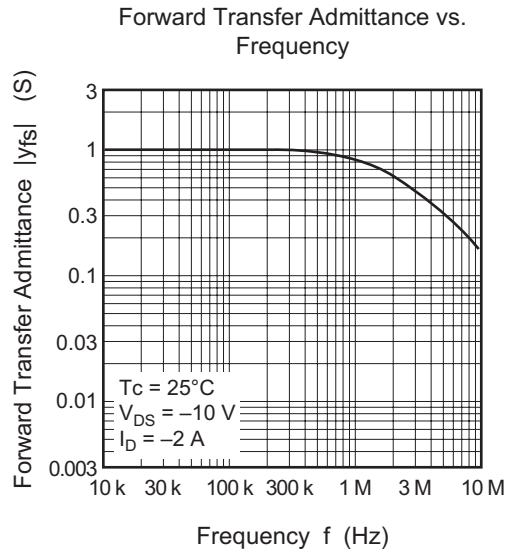
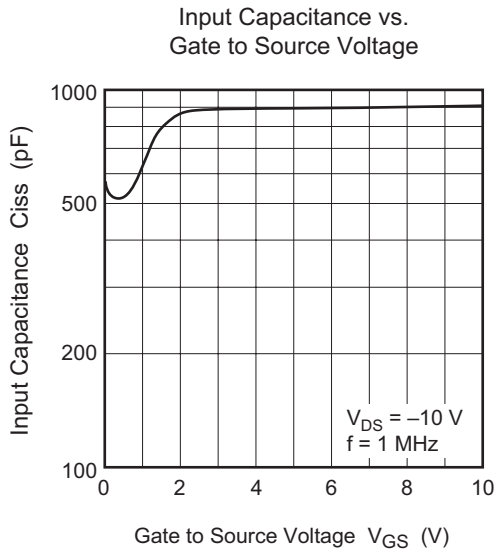
(Ta = 25°C)

Item		Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	2SJ160	$V_{(BR)DSX}$	-120	—	—	V	$I_D = -10$ mA, $V_{GS} = 10$ V
	2SJ161		-140	—	—	V	
	2SJ162		-160	—	—	V	
Gate to source breakdown voltage		$V_{(BR)GSS}$	±15	—	—	V	$I_G = \pm 100$ $\mu$ A, $V_{DS} = 0$
Gate to source cutoff voltage		$V_{GS(off)}$	-0.15	—	-1.45	V	$I_D = -100$ mA, $V_{DS} = -10$ V
Drain to source saturation voltage		$V_{DS(sat)}$	—	—	-12	V	$I_D = -7$ A, $V_{GS} = 0$ <sup>Note 2</sup>
Forward transfer admittance		$ y_{fs} $	0.7	1.0	1.4	S	$I_D = -3$ A, $V_{DS} = -10$ V <sup>Note 2</sup>
Input capacitance		$C_{iss}$	—	900	—	pF	$V_{GS} = 5$ V, $V_{DS} = -10$ V, $f = 1$ MHz
Output capacitance		$C_{oss}$	—	400	—	pF	
Reverse transfer capacitance		$C_{rss}$	—	40	—	pF	
Turn-on time		$t_{on}$	—	230	—	ns	$V_{DD} = -20$ V $I_D = -4$ A
Turn-off time		$t_{off}$	—	110	—	ns	

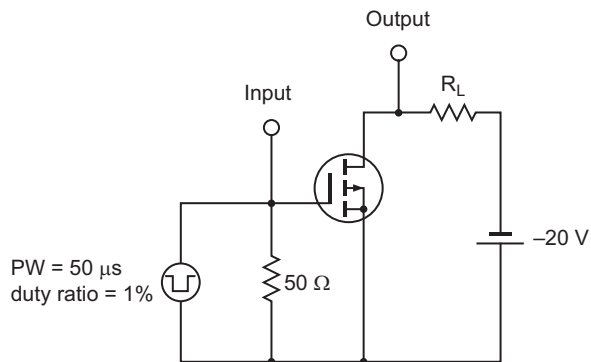
Note: 2. Pulse test

Main Characteristics

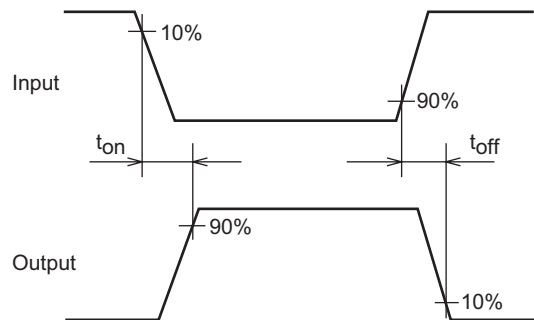




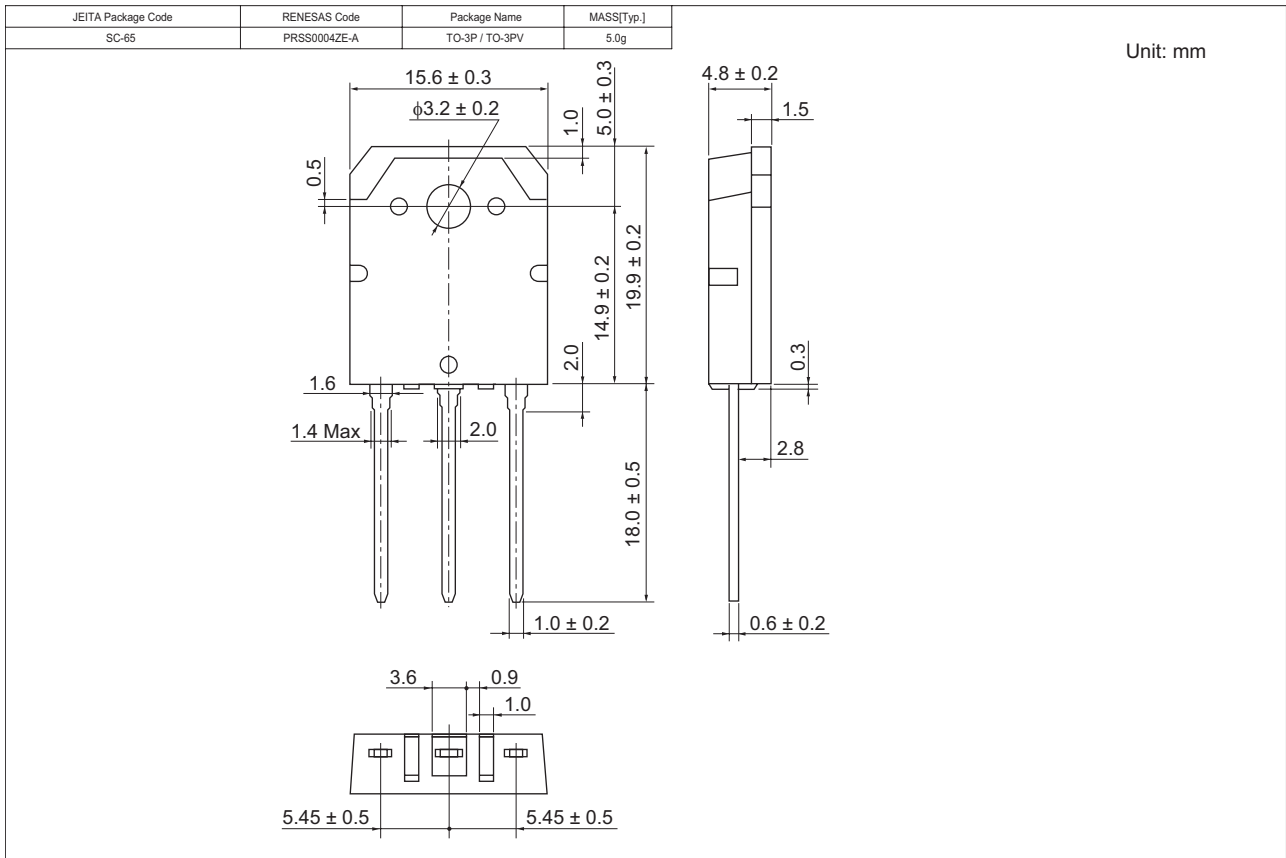
Switching Time Test Circuit



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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