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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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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

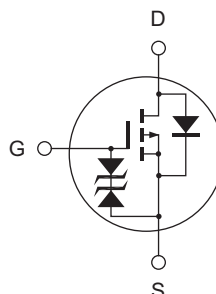
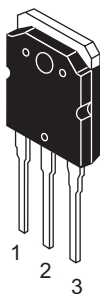
Complementary pair with 2SK1056, 2SK1057 and 2SK1058

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} ^{Note 1}	100	W
Channel temperature		T_{ch}	150	°C
Storage temperature		T_{stg}	-55 to +150	°C

Note: 1. Value at Tc = 25°C

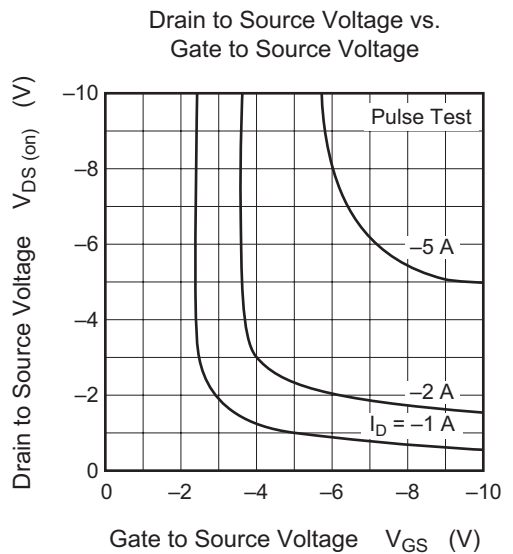
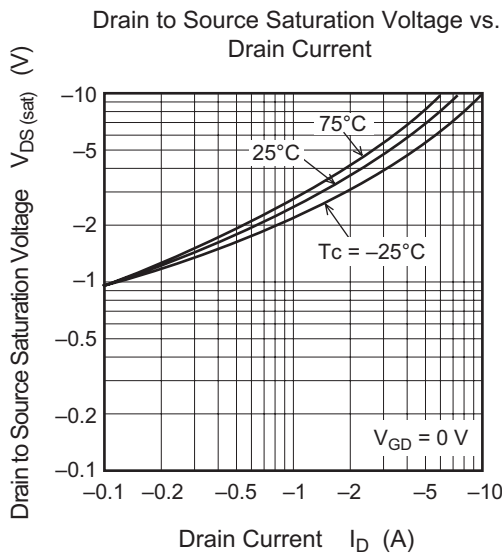
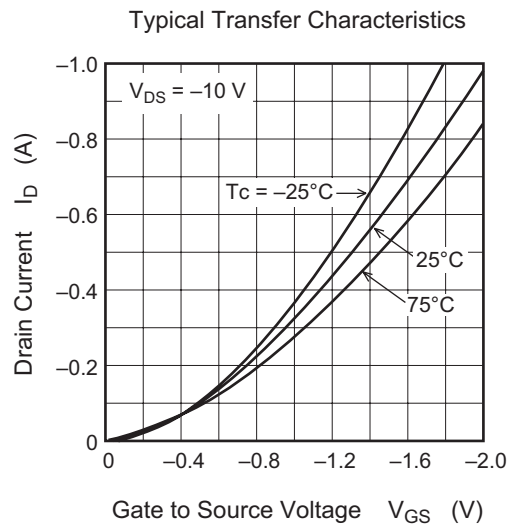
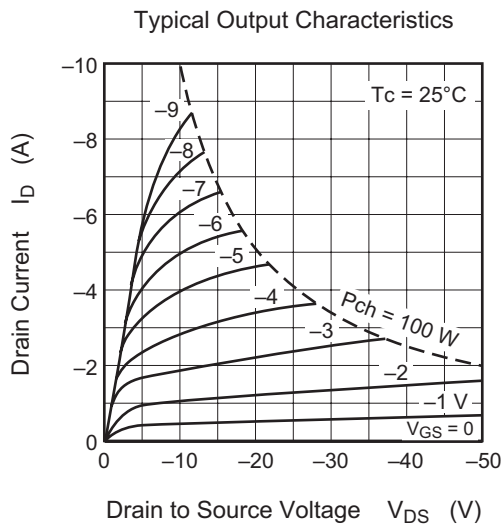
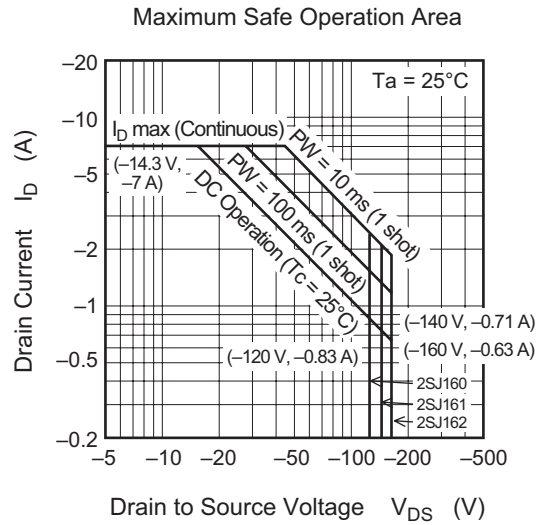
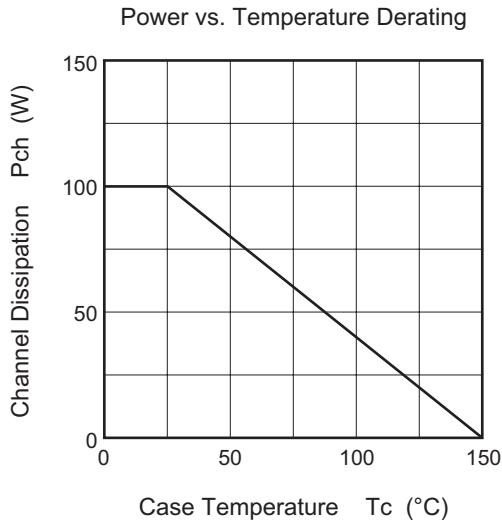
Electrical Characteristics

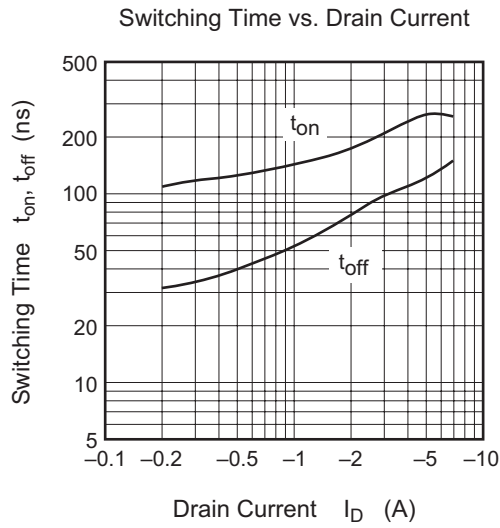
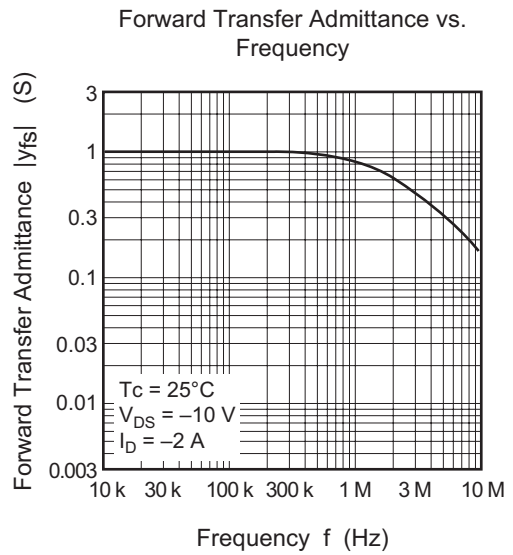
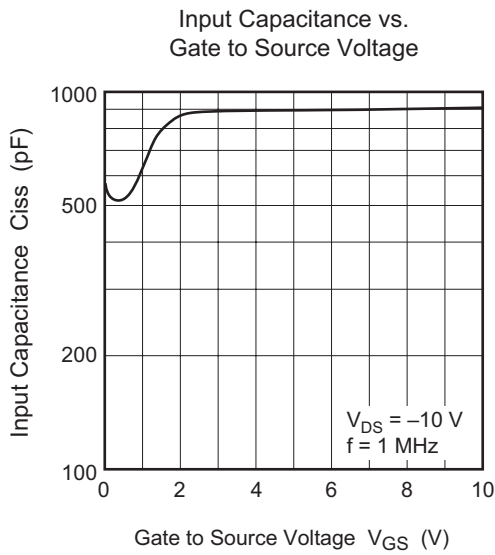
(Ta = 25°C)

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

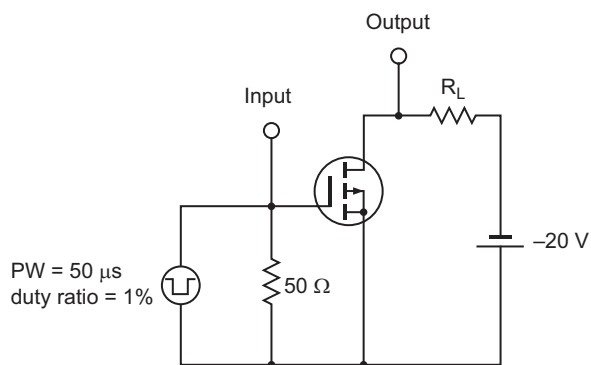
Note: 2. Pulse test

Main Characteristics

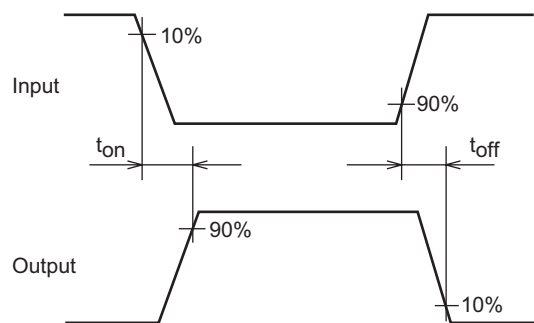




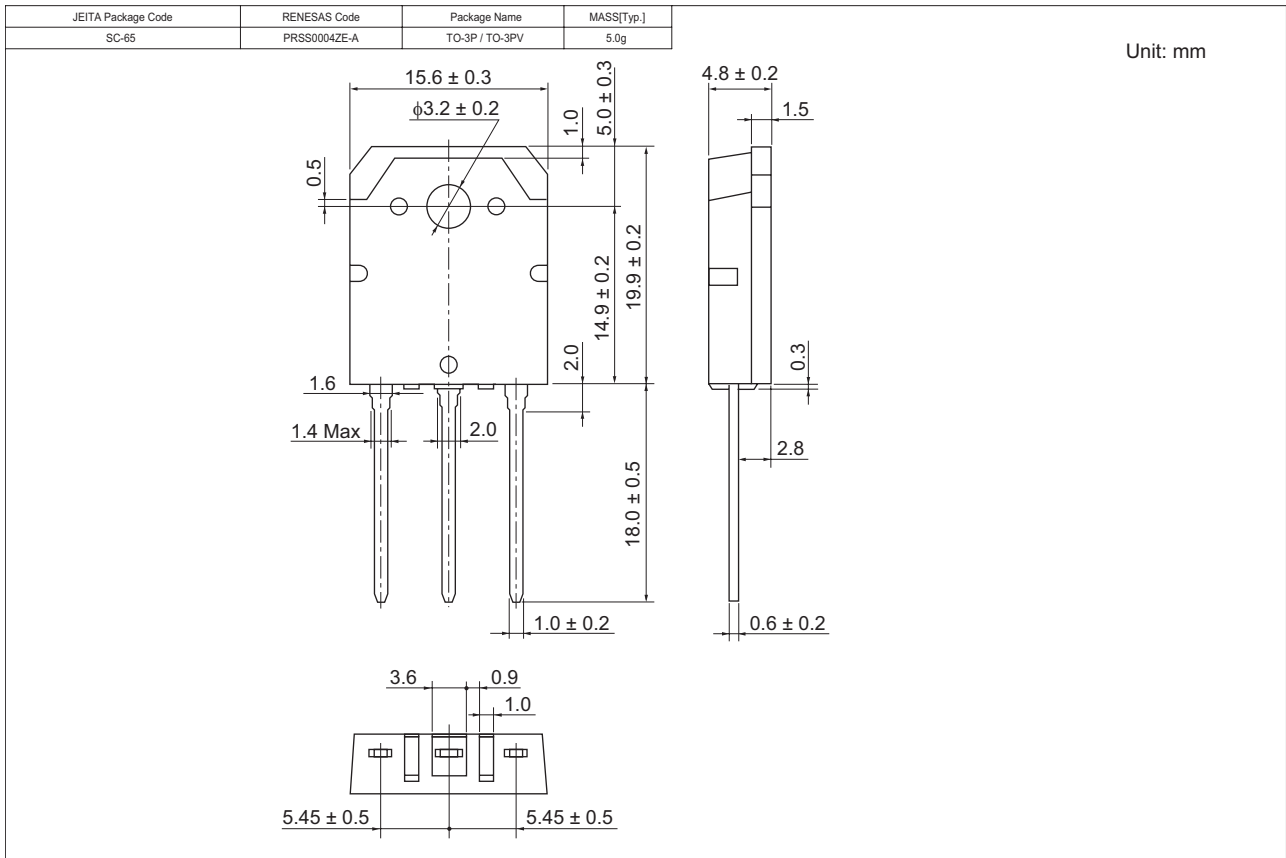
Switching Time Test Circuit



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)

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