
2SJ160, 2SJ161, 2SJ162

Silicon P-Channel MOS FET

HITACHI

Application

Low frequency power amplifier

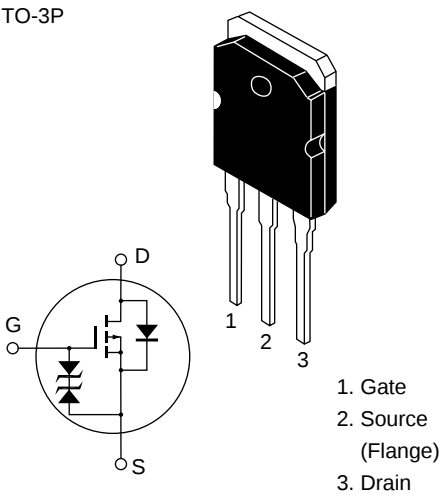
Complementary pair with 2SK1056, 2SK1057 and 2SK1058

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

2SJ160, 2SJ161, 2SJ162

Outline



Absolute Maximum Ratings (Ta = 25°C)

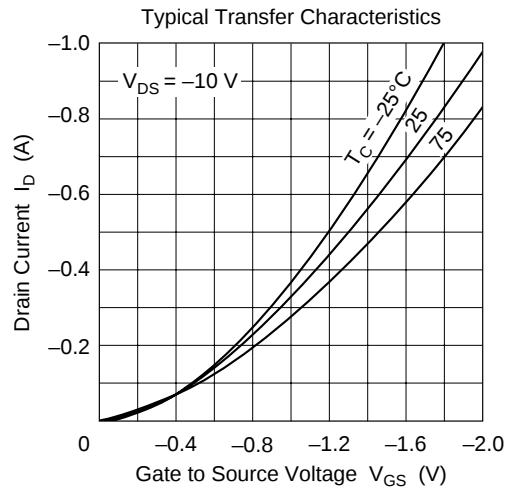
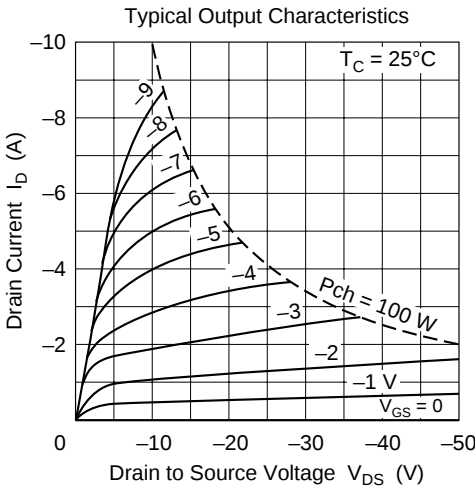
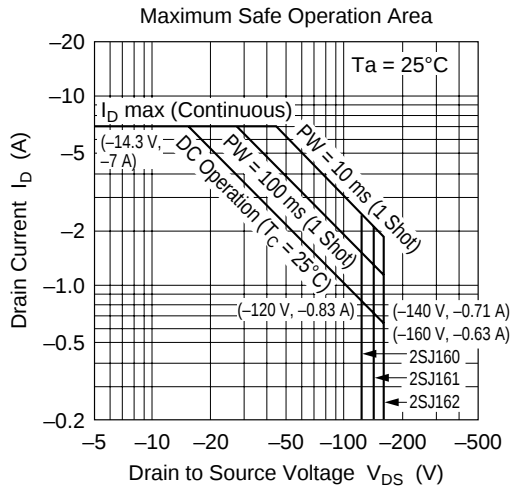
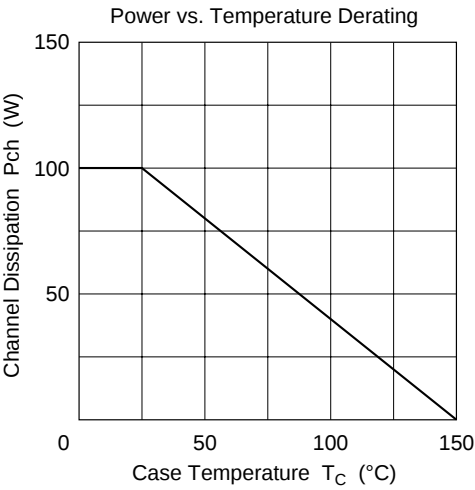
Item		Symbol	Ratings	Unit
Drain to source voltage	2SJ160	V_{DSX}	-120	V
	2SJ161		-140	
	2SJ162		-160	
Gate to source voltage		V_{GSS}	±15	V
Drain current		I_D	-7	A
Body to drain diode reverse drain current		I_{DR}	-7	A
Channel dissipation		Pch^{*1}	100	W
Channel temperature		Tch	150	°C
Storage temperature		Tstg	-55 to +150	°C

Note: 1. Value at $T_c = 25^\circ\text{C}$

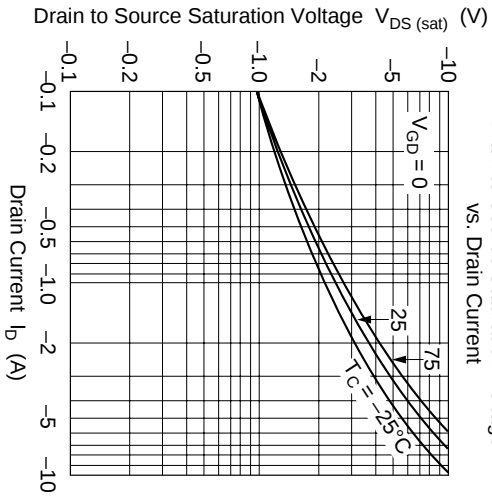
Electrical Characteristics (Ta = 25°C)

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	$I_G = \pm 100 \text{ } \mu\text{A}$, $V_{DS} = 0$
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	$I_D = -7 \text{ A}$, $V_{GD} = 0^{*1}$
Forward transfer admittance		$ y_{fs} $	0.7	1.0	1.4	S	$I_D = -3 \text{ A}$, $V_{DS} = -10 \text{ V}^{*1}$
Input capacitance		Ciss	—	900	—	pF	$V_{GS} = 5 \text{ V}$, $V_{DS} = -10 \text{ V}$, $f = 1 \text{ MHz}$
Output capacitance		Coss	—	400	—	pF	
Reverse transfer capacitance		Crss	—	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	

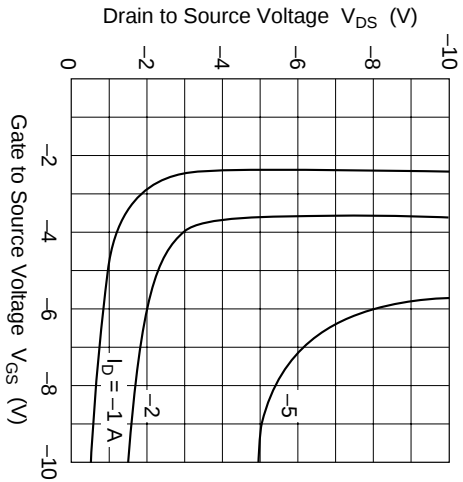
Note: 1. Pulse test



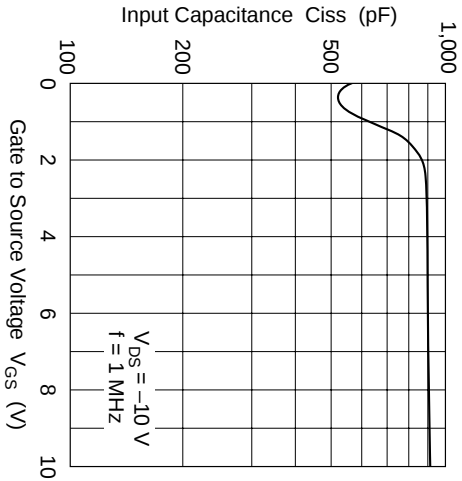
Drain to Source Saturation Voltage
vs. Drain Current



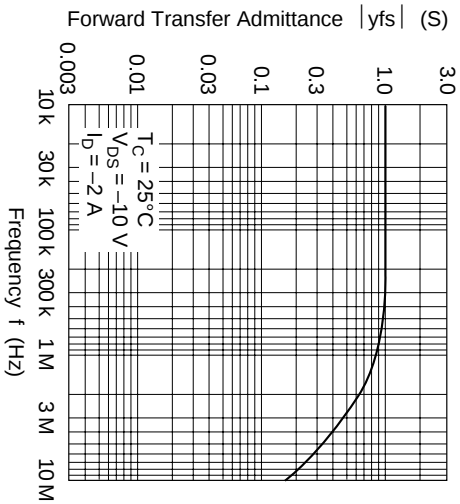
Drain to Source Voltage vs.
Gate to Source Voltage

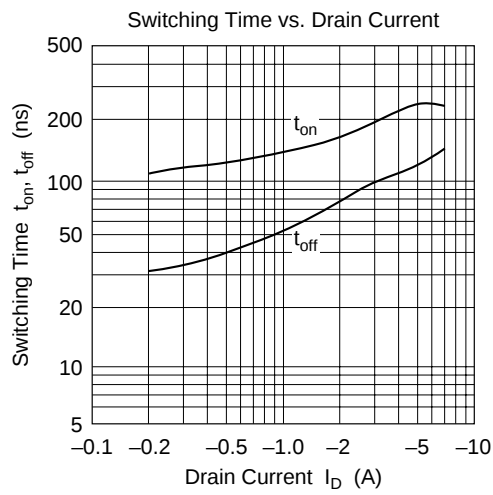


Input Capacitance vs.
Gate to Source Voltage

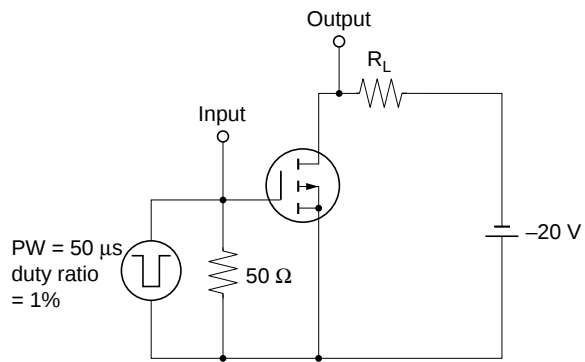


Forward Transfer Admittance
vs. Frequency

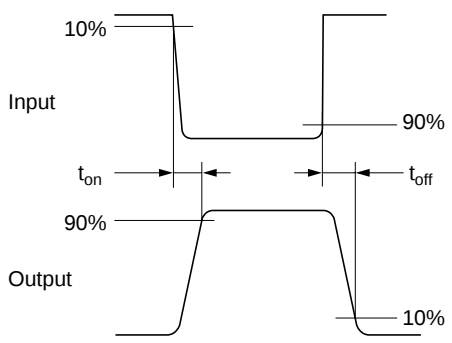




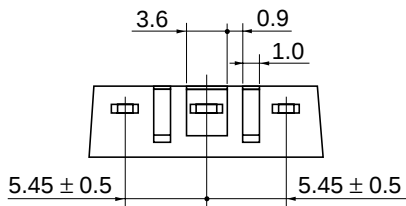
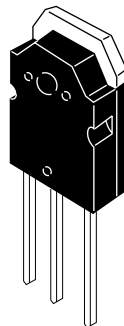
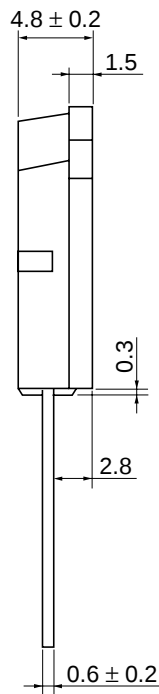
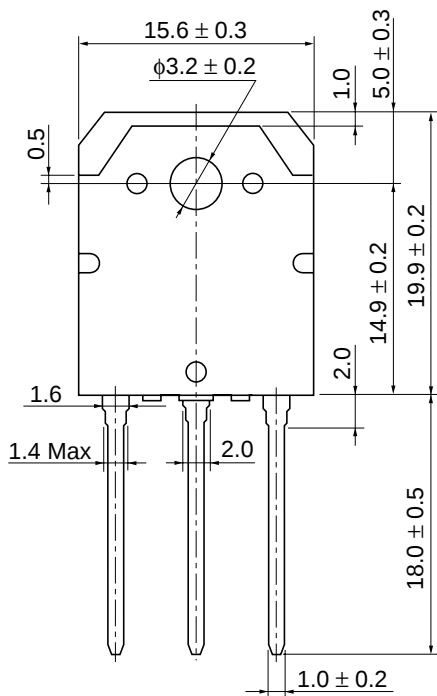
Switching Time Test Circuit



Waveforms



Unit: mm



Hitachi Code	TO-3P
JEDEC	—
EIAJ	Conforms
Weight (reference value)	5.0 g

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Hitachi, Ltd.

Semiconductor & Integrated Circuits.
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan
Tel: Tokyo (03) 3270-2111 Fax: (03) 3270-5109

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For further information write to:

Hitachi Semiconductor (America) Inc. 179 East Tasman Drive, San Jose, CA 95134 Tel: <1> (408) 433-1990 Fax: <1> (408) 433-0223	Hitachi Europe GmbH Electronic components Group Dornacher Straße 3 D-85622 Feldkirchen, Munich Germany Tel: <49> (89) 9 9180-0 Fax: <49> (89) 9 29 30 00 Hitachi Europe Ltd. Electronic Components Group. Whitebrook Park Lower Cookham Road Maidenhead Berkshire SL6 8YA, United Kingdom Tel: <44> (1628) 585000 Fax: <44> (1628) 778322
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Hitachi Asia Pte. Ltd. 16 Collyer Quay #20-00 Hitachi Tower Singapore 049318 Tel: 535-2100 Fax: 535-1533 Hitachi Asia Ltd. Taipei Branch Office 3F, Hung Kuo Building, No.167, Tun-Hwa North Road, Taipei (105) Tel: <886> (2) 2718-3666 Fax: <886> (2) 2718-8180
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Hitachi Asia (Hong Kong) Ltd.
Group III (Electronic Components)
7/F., North Tower, World Finance Centre,
Harbour City, Canton Road, Tsim Sha Tsui,
Kowloon, Hong Kong
Tel: <852> (2) 735 9218
Fax: <852> (2) 730 0281
Telex: 40815 HITEC HX

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