
2SJ351, 2SJ352

Silicon P-Channel MOS FET

HITACHI

ADE-208-1193 (Z)

1st. Edition

Mar. 2001

Application

Low frequency power amplifier

Complementary pair with 2SK2220, 2SK2221

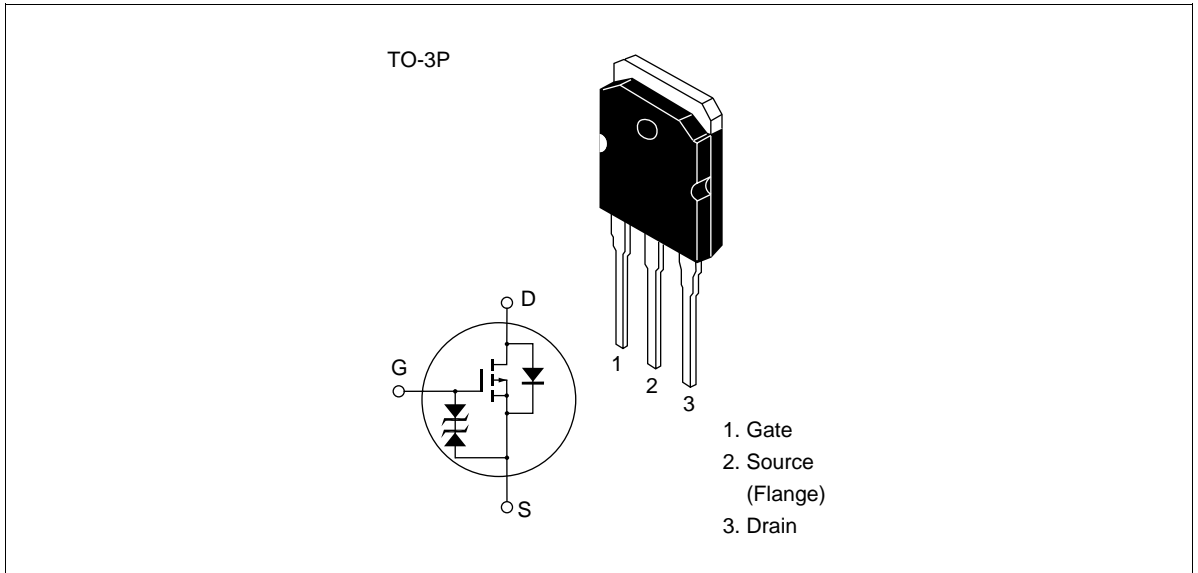
Features

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

Ordering Information

Type No.	V_{DSX}
2SJ351	-180 V
2SJ352	-200 V

Outline



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Item		Symbol	Ratings	Unit
Drain to source voltage	2SJ351	V_{DSX}	-180	V
	2SJ352		-200	
Gate to source voltage		V_{GSS}	± 20	V
Drain current		I_D	-8	A
Body to drain diode reverse drain current		I_{DR}	-8	A
Channel dissipation		P_{ch}^{*1}	100	W
Channel temperature		T_{ch}	150	$^\circ\text{C}$
Storage temperature		T_{stg}	-55 to +150	$^\circ\text{C}$

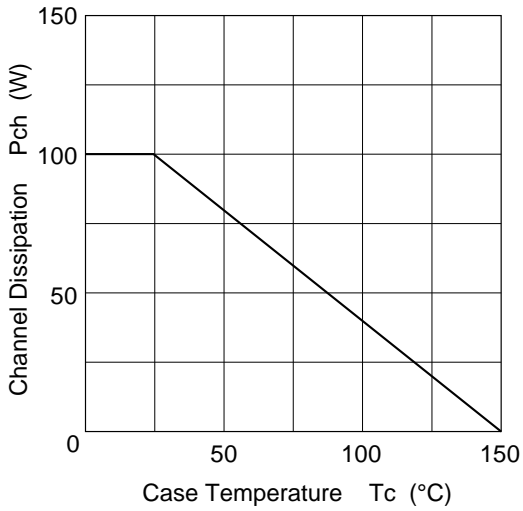
Note: 1. Value at $T_c = 25^\circ\text{C}$

Electrical Characteristics (Ta = 25°C)

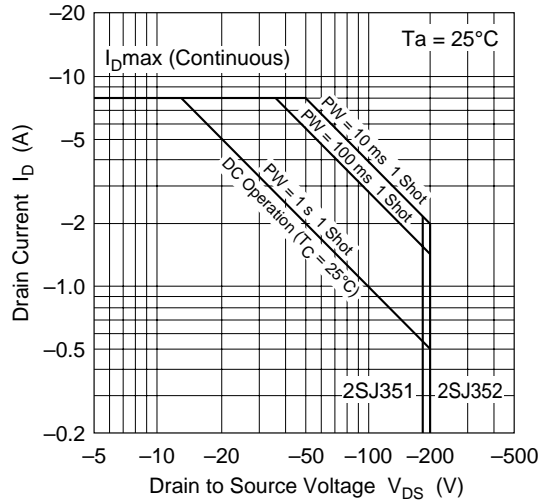
Item		Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	2SJ351 2SJ352	$V_{(BR)DSX}$	-180	—	—	V	$I_D = -10 \text{ mA}$, $V_{GS} = 10 \text{ V}$
Gate to source breakdown voltage		$V_{(BR)GSS}$	± 20	—	—	V	$I_G = \pm 100 \mu\text{A}$, $V_{DS} = 0$
Gate to source cutoff voltage		$V_{GS(off)}$	-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	$I_D = -8 \text{ A}$, $V_{GD} = 0^{*1}$
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		C_{iss}	—	800	—	pF	$V_{GS} = 5 \text{ V}$, $V_{DS} = -10 \text{ V}$,
Output capacitance		C_{oss}	—	1000	—	pF	$f = 1 \text{ MHz}$
Reverse transfer capacitance		C_{rss}	—	18	—	pF	
Turn-on time		t_{on}	—	320	—	ns	$V_{DD} = -30 \text{ V}$, $I_D = -4 \text{ A}$
Turn-off time		t_{off}	—	120	—	ns	

Note: 1. Pulse test

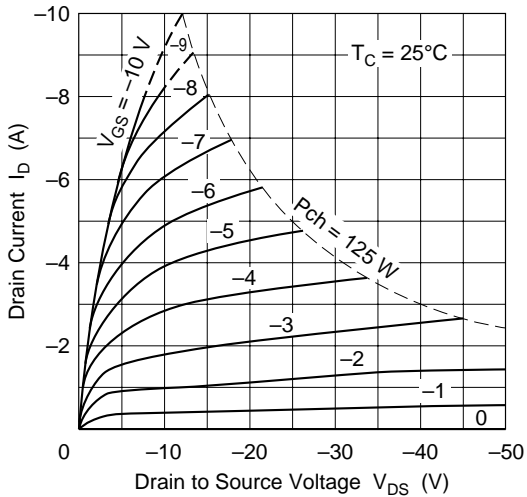
Power vs. Temperature Derating



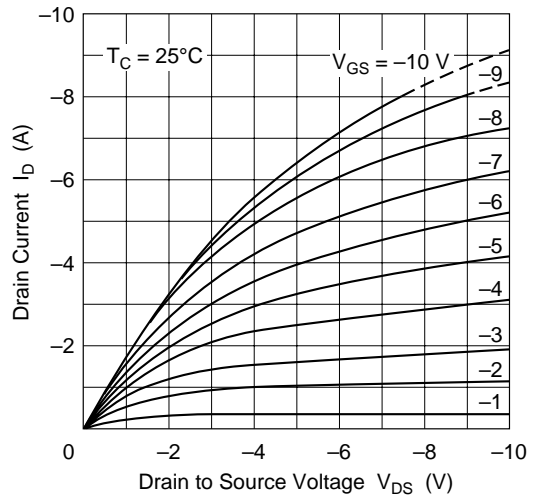
Maximum Safe Operation Area



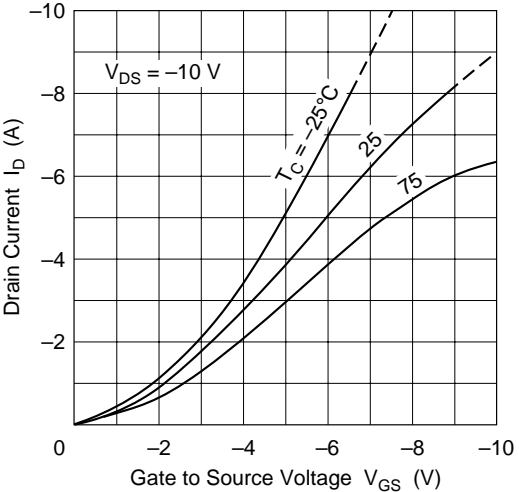
Typical Output Characteristics



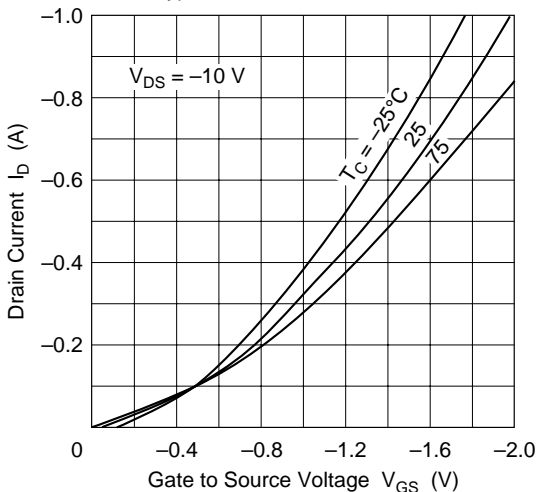
Typical Output Characteristics



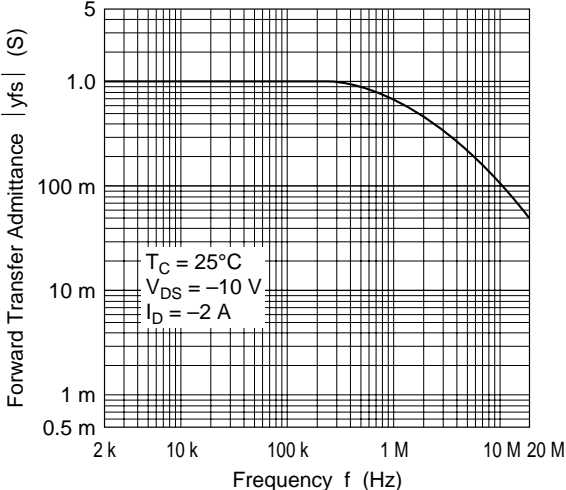
Typical Transfer Characteristics



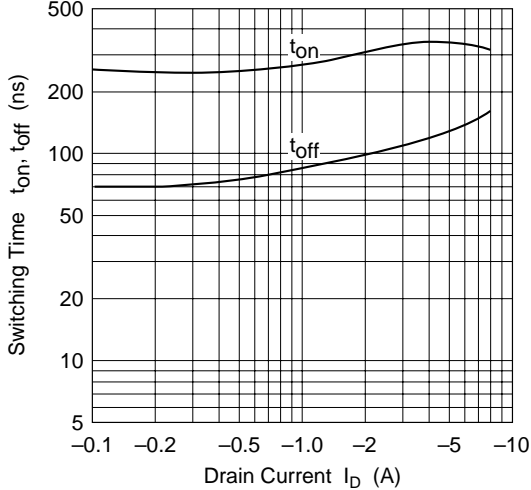
Typical Transfer Characteristics

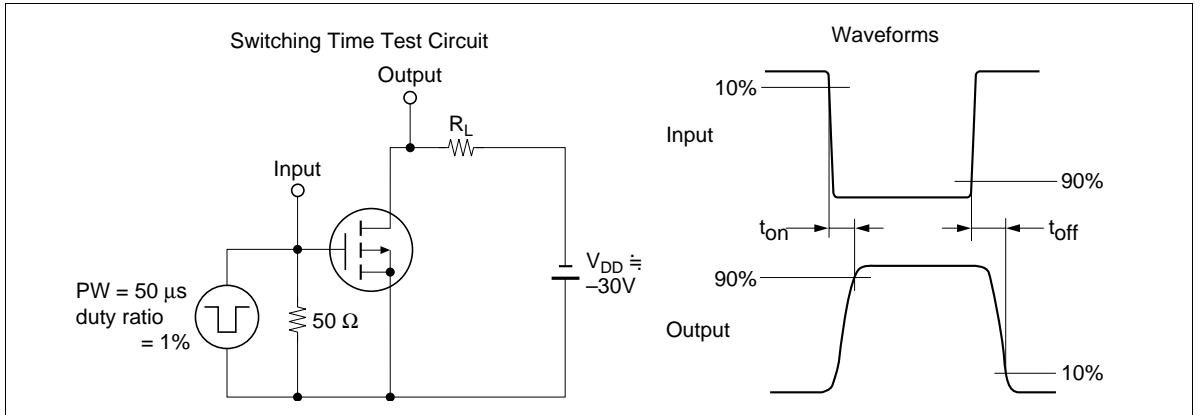


Forward Transfer Admittance vs. Frequency



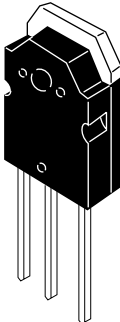
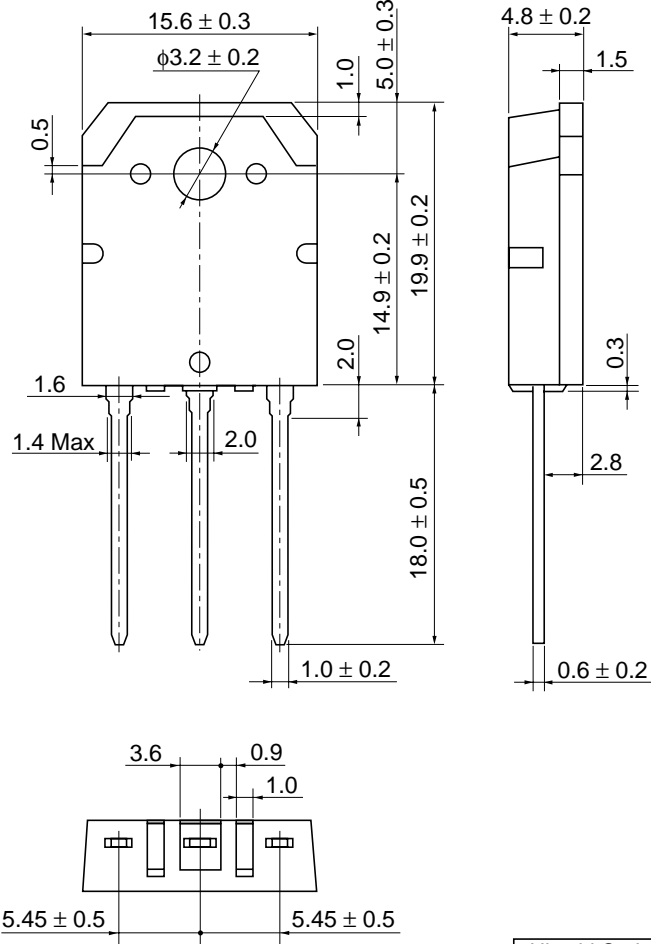
Switching Time vs. Drain Current





Package Dimensions

As of January, 2001
Unit: mm



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

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