2SJ351, 2SJ352

Silicon P-Channel MOS FET

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

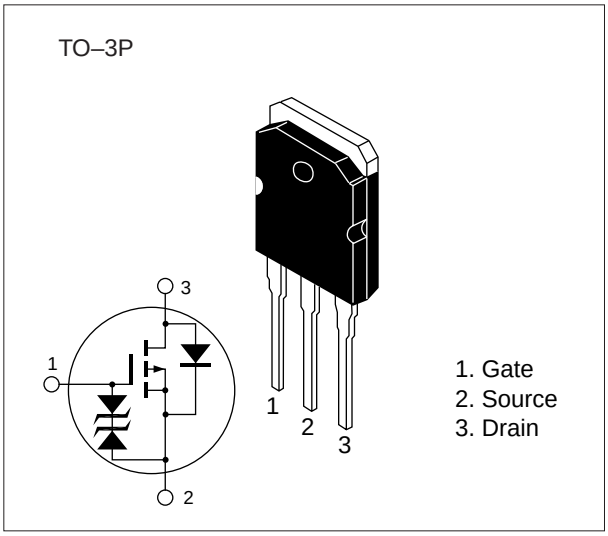


Table 1 Ordering Information

Type No.	V_{DSS}
2SJ351	–180 V
2SJ352	–200 V

Table 2 Absolute Maximum Ratings (Ta = 25°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–drain diode reverse drain current		I_{DR}	–8	A
Channel dissipation		Pch*	100	W
Channel temperature		Tch	150	°C
Storage temperature		Tstg	–55 to +150	°C

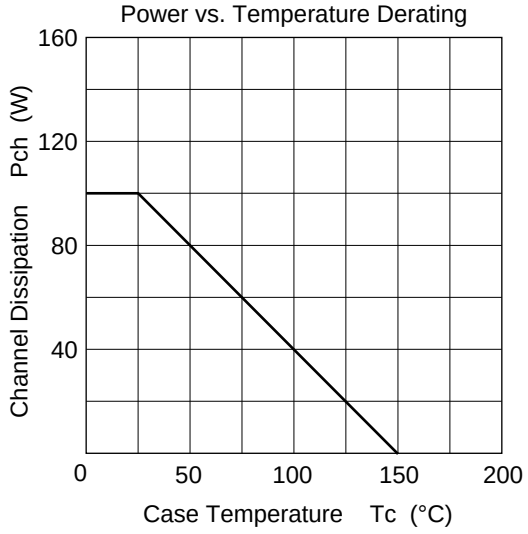
* Value at Tc = 25 °C

Table 3 Electrical Characteristics (Ta = 25°C)

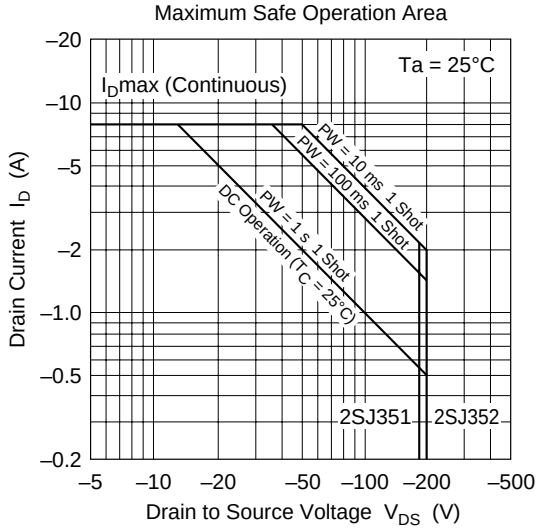
Item		Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	2SJ351	$V_{(BR)DSX}$	–180	—	—	V	I_D = –10 mA, V_{GS} = 10 V
	2SJ352		–200	—	—		
Gate to source breakdown voltage		$V_{(BR)GSS}$	±20	—	—	V	I_G = ±100 µA, V_{DS} = 0
Gate to source cutoff voltage		$V_{GS(off)}$	–0.15	—	–1.45	V	I_D = –100 mA V_{DS} = –10 V
Drain to source saturation voltage		$V_{DS(sat)}$	—	—	–12	V	I_D = –8 A, V_{GD} = 0 V*
Forward transfer admittance		$\|y_{fs}\|$	0.7	1.0	1.4	S	I_D = –3 A V_{DS} = –10 V *
Input capacitance		Ciss	—	800	—	pF	V_{GS} = 5 V
Output capacitance		Coss	—	1000	—	pF	V_{DS} = –10 V
Reverse transfer capacitance		Crss	—	18	—	pF	f = 1 MHz
Turn–on time		t_{on}	—	320	—	ns	V_{DD} = –30 V
Turn–off time		t_{off}	—	120	—	ns	I_D = –4 A

* Pulse Test

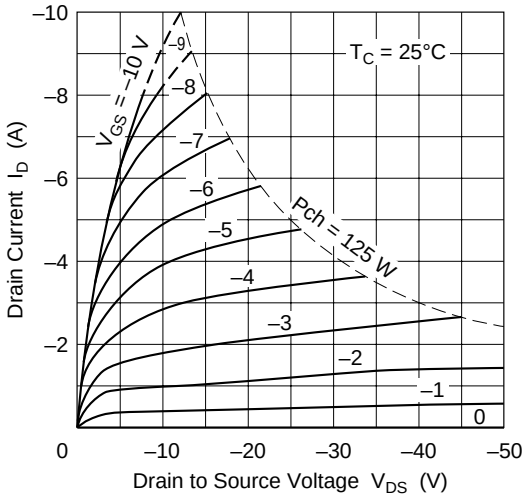
Power vs. Temperature Derating



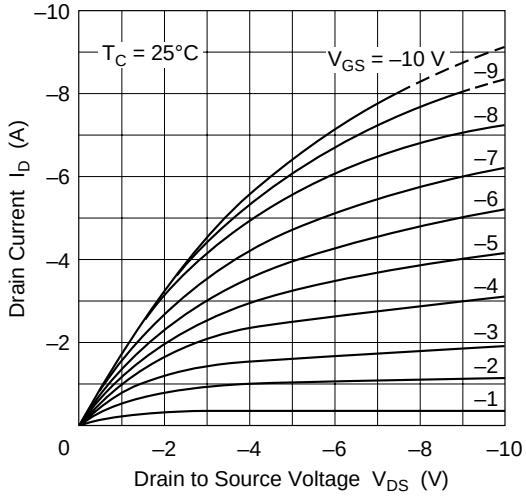
Maximum Safe Operation Area



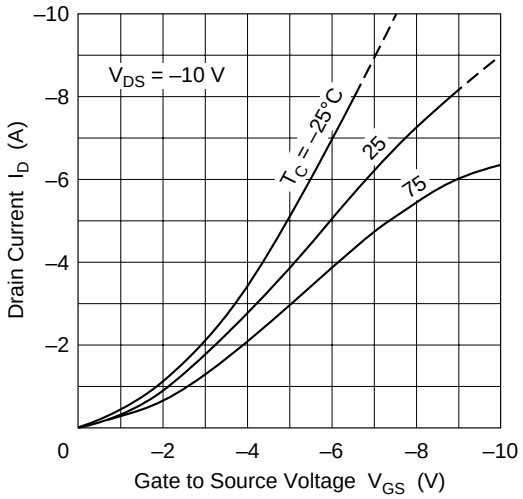
Typical Output Characteristics



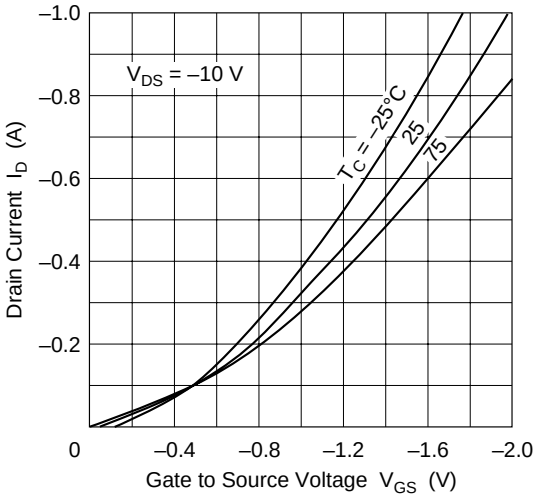
Typical Output Characteristics



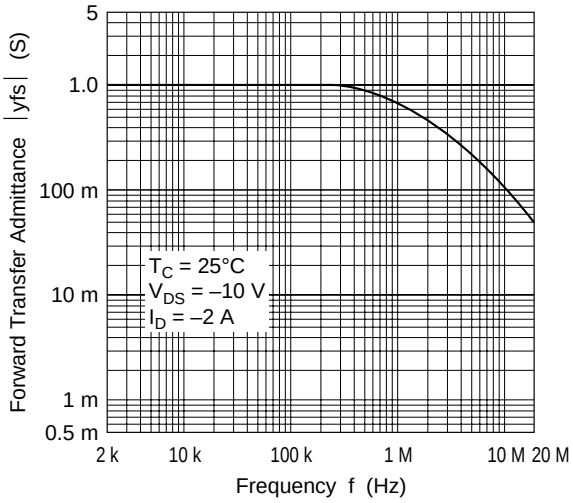
Typical Transfer Characteristics



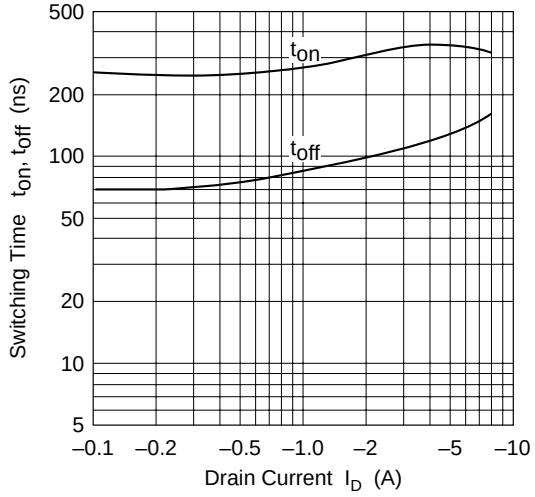
Typical Transfer Characteristics



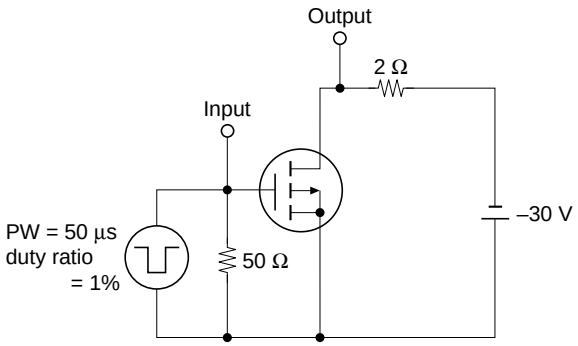
Forward Transfer Admittance vs. Frequency



Switching Time vs. Drain Current



Switching Time Test Circuit



Waveforms