

## 2SK2220, 2SK2221

### Silicon N Channel MOS FET

#### Application

Low frequency power amplifier  
Complementary pair with 2SJ351, 2SJ352

#### 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

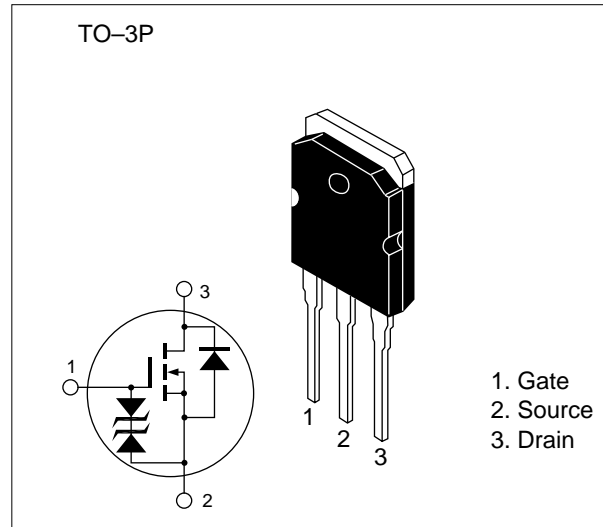
**Table 1 Ordering Information**

Type No.	V <sub>DSS</sub>
2SK2220	180 V
2SK2221	200 V

**Table 2 Absolute Maximum Ratings** (Ta = 25°C)

Item		Symbol	Ratings	Unit
Drain to source voltage	2SK2220	V <sub>DSX</sub>	180	V
	2SK2221		200	
Gate to source voltage		V <sub>GSS</sub>	±20	V
Drain current		I <sub>D</sub>	8	A
Body-drain diode reverse drain current		I <sub>DR</sub>	8	A
Channel dissipation		P <sub>ch</sub> *	100	W
Channel temperature		T <sub>ch</sub>	150	°C
Storage temperature		T <sub>stg</sub>	-55 to +150	°C

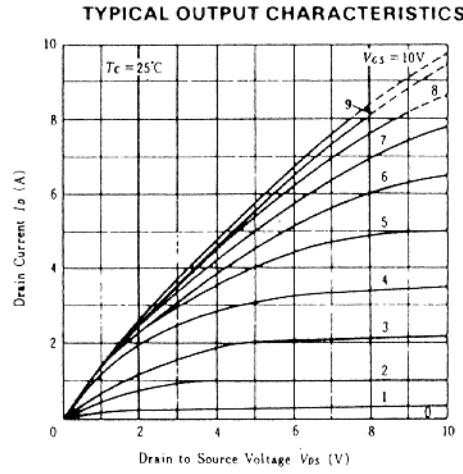
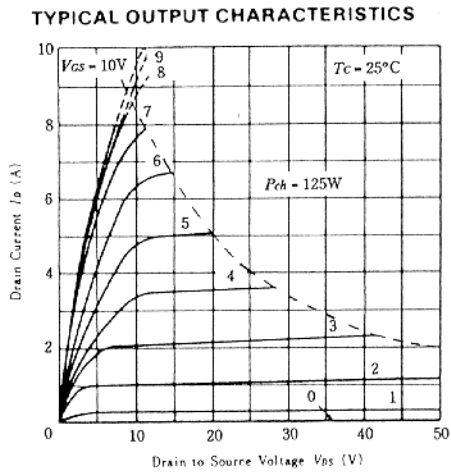
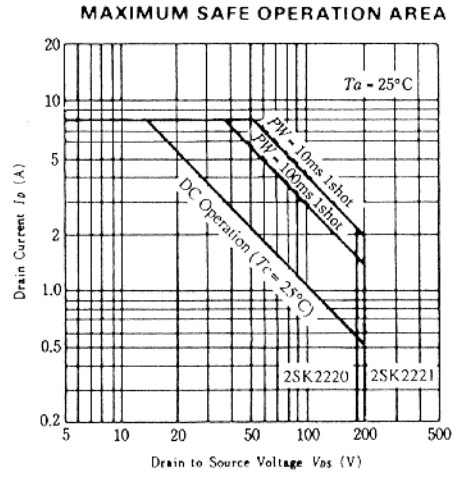
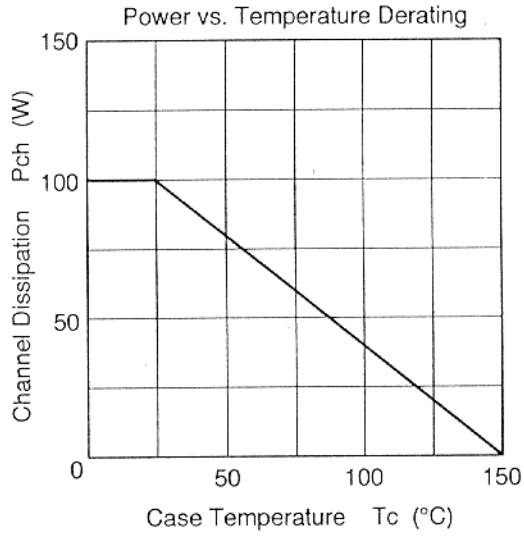
\* Value at T<sub>c</sub> = 25 °C



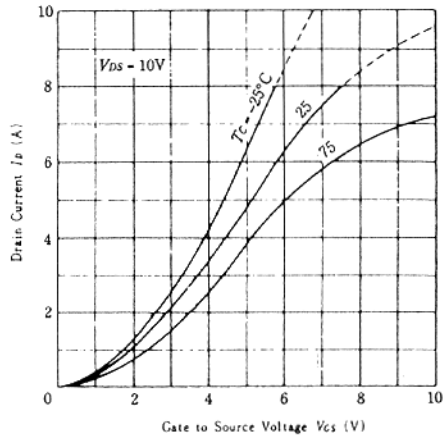
**Table 3 Electrical Characteristics** (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	2SK2220	180	—	—	V	ID = 10 mA, VGS = -10 V
	2SK2221	200	—	—		
Gate to source breakdown voltage	V <sub>(BR)GSS</sub>	±20	—	—	V	IG = ±100 μA, VDS = 0
Gate to source cutoff voltage	V <sub>GS(off)</sub>	0.15	—	1.45	V	ID = 100 mA VDS = 10 V
Drain to source saturation voltage	V <sub>DS(sat)</sub>	—	—	12	V	ID = 8 A, VGD = 0 V*
Forward transfer admittance	y <sub>fs</sub>	0.7	1.0	1.4	S	ID = 3 A VDS = 10 V *
Input capacitance	Ciss	—	600	—	pF	VGS = -5 V
Output capacitance	Coss	—	800	—	pF	VDS = 10 V
Reverse transfer capacitance	Crss	—	8	—	pF	f = 1 MHz
Turn-on time	t <sub>on</sub>	—	250	—	ns	VDD = 30 V
Turn-off time	t <sub>off</sub>	—	90	—	ns	ID = 4 A

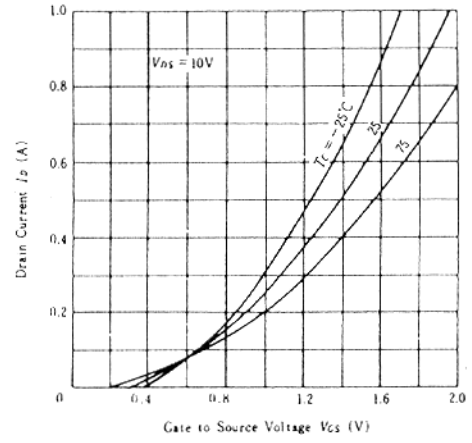
\* Pulse Test



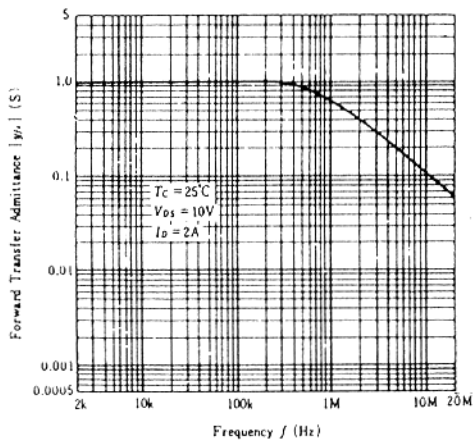
TYPICAL TRANSFER CHARACTERISTICS



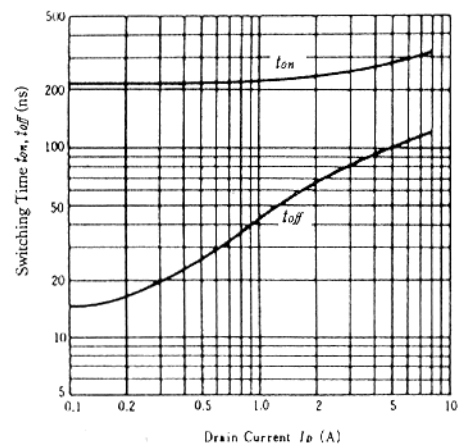
TYPICAL TRANSFER CHARACTERISTICS



FORWARD TRANSFER ADMITTANCE VS. FREQUENCY

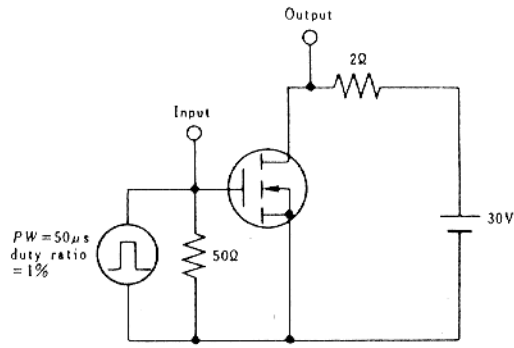


SWITCHING TIME VS. DRAIN CURRENT



2SK2220, 2SK2221

SWITCHING TIME TEST CIRCUIT



WAVEFORMS

