

# N-Channel MOSFET Transistor

## **2SK175 / K175**

180V / 8A

# DATASHEET

OEM – Hitachi

Source: Hitachi Databook Power Mosfet Data 4/83

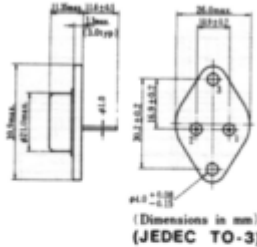
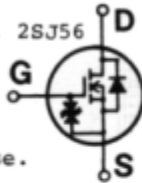
# 2SK175, 2SK176

## SILICON N-CHANNEL MOS FET

LOW FREQUENCY POWER AMPLIFIER  
Complementary Pair with 2SJ55, 2SJ56

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.



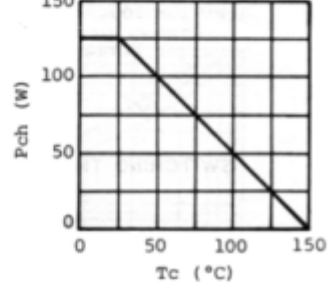
1. Gate
2. Drain
3. Source (Case)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	Rating		Unit
		K175	K176	
Drain-Source Voltage	V <sub>DSX</sub>	180	200	V
Gate-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> *	125		W
Channel Temperature	T <sub>ch</sub>	150		°C
Storage Temperature	T <sub>stg</sub>	-55 ~ +150		°C

\*Value at Tc=25°C

POWER VS. TEMPERATURE DERATING

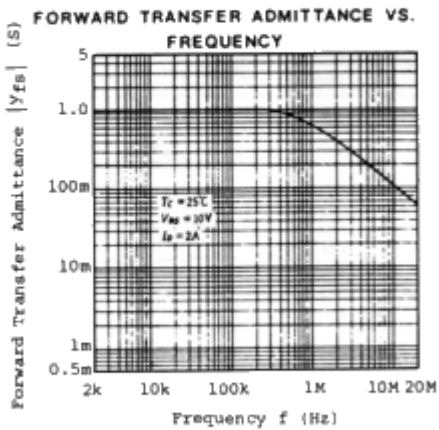
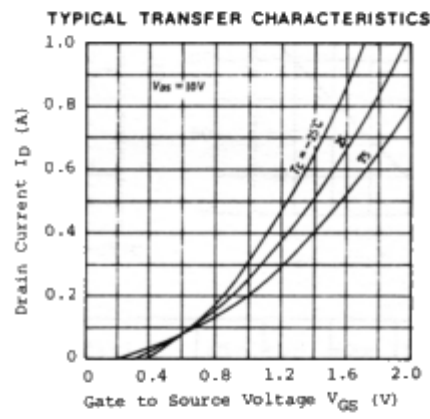
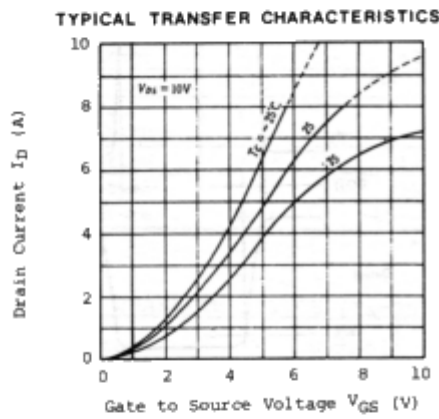
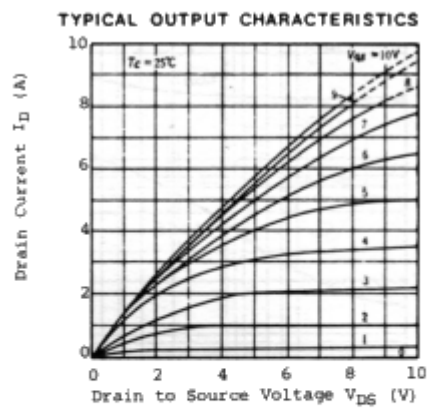
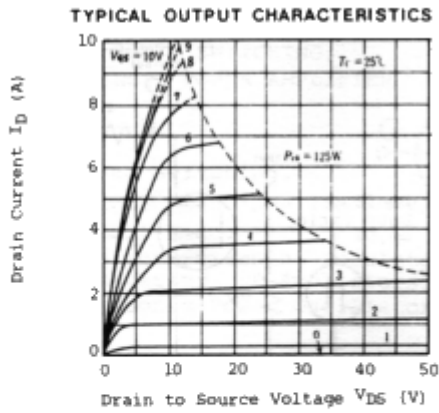


■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Drain-Source Breakdown Voltage	K175	I <sub>D</sub> =10mA, V <sub>GS</sub> =-10V	180	-	-	V
	K176		200	-	-	V
Gate-Source Breakdown Voltage	V <sub>(BR)GSS</sub>	I <sub>G</sub> =±100µA, V <sub>DS</sub> =0	±20	-	-	V
Gate-Source Cutoff Voltage	V <sub>GS(off)</sub>	I <sub>D</sub> =100mA, V <sub>DS</sub> =10V	0.15	-	1.45	V
Drain-Source Saturation Voltage	V <sub>DS(sat)</sub>	I <sub>D</sub> =8A, V <sub>GD</sub> =0*	-	-	12	V
Forward Transfer Admittance	Y <sub>fs</sub>	I <sub>D</sub> =3A, V <sub>DS</sub> =10V*	0.7	1.0	1.4	S
Input Capacitance	C <sub>iss</sub>	V <sub>GS</sub> =-5V, V <sub>DS</sub> =10V f=1MHz	-	800	-	pF
Output Capacitance	C <sub>oss</sub>		-	600	-	pF
Reverse Transfer Capacitance	C <sub>rss</sub>		-	15	-	pF
Turn-on Time	t <sub>on</sub>	V <sub>DD</sub> =30V, I <sub>D</sub> =4A	-	250	-	ns
Turn-off Time	t <sub>off</sub>		-	90	-	ns

\*Pulse Test

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