

P-Channel MOSFET Transistor

2SJ102 / J102

60V / 5A

DATASHEET

OEM – Hitachi

Source: Hitachi Databook Power Mosfet Data 4/83

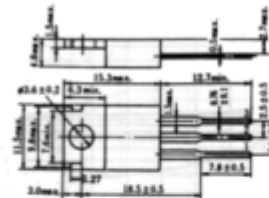
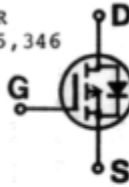
2SJ101, 2SJ102

SILICON P-CHANNEL MOS FET

HIGH SPEED POWER SWITCHING
 LOW FREQUENCY POWER AMPLIFIER
 Complementary pair with 2SK345,346

Features;

- Low On-Resistance.
- High Speed Switching.
- No Secondary Breakdown.
- Good Complementary Characteristics.
- Suitable for PWM Amplifier, Switching Regulator, and DC-DC Converter.



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

(Dimensions in mm)

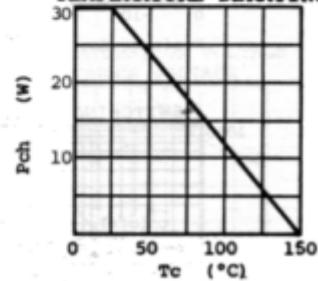
(JEDEC TO-220AB)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	J101	J102	Unit
Drain-Source Voltage	V _{DS}	-40	-60	V
Gate-Source Voltage	V _{GS}	±20		V
Drain Current	I _D	-5		A
Drain Peak Current	I _{D(peak)}	-10		A
Body-Drain Diode Reverse Drain Current	I _{DR}	-5		A
Channel Dissipation	P _{ch} *	30		W
Channel Temperature	T _{ch}	150		°C
Storage Temperature	T _{stg}	-55 ~ +150		°C

*Value at Tc=25°C

POWER VS. TEMPERATURE DERATING

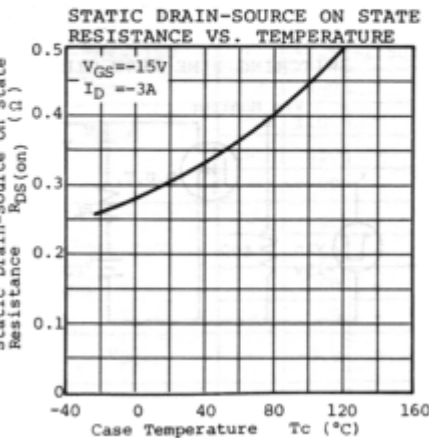
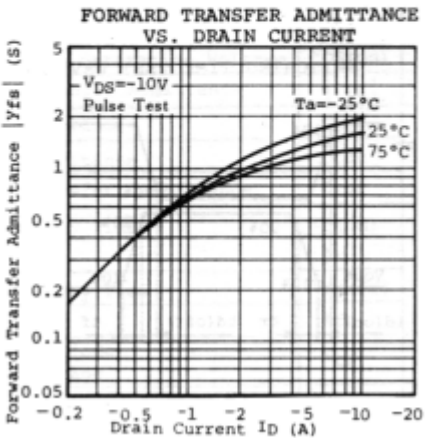
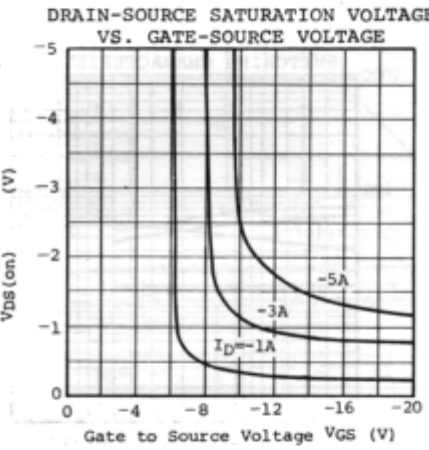
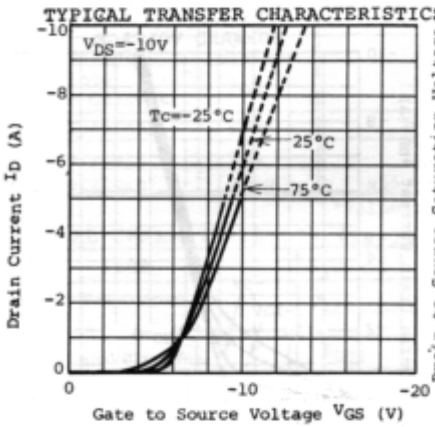
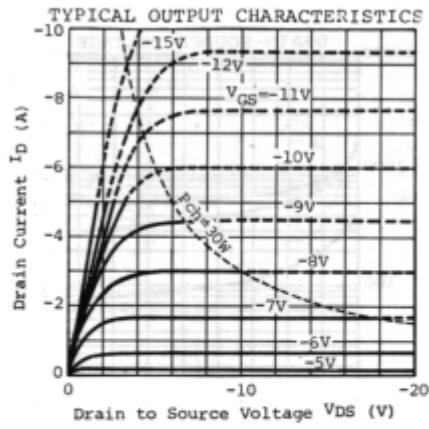
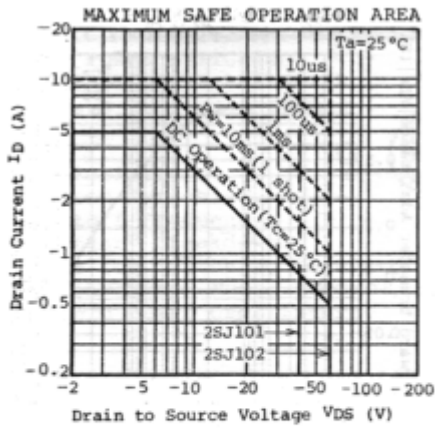


■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

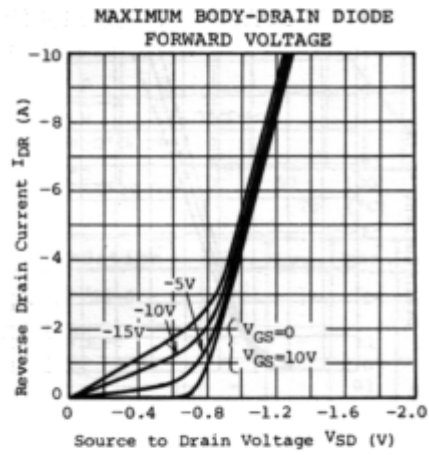
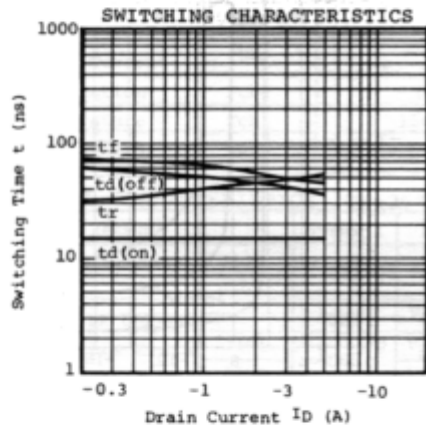
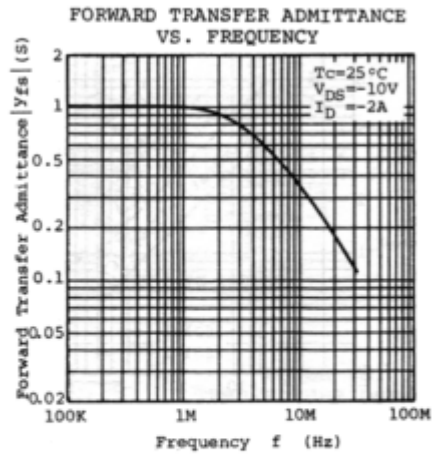
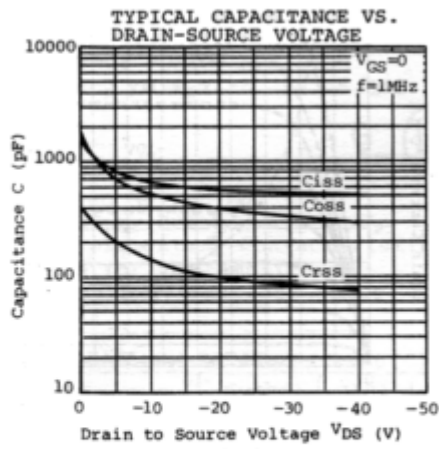
Item	Symbol	Test Condition	min.	typ.	max.	Unit
Drain-Source Breakdown Voltage	J101	I _D = -10mA, V _{GS} = 0	-40	-	-	V
	J102		-60	-	-	V
Gate-Source Leak Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0	-	-	±1	µA
Zero Gate Voltage Drain Current	J101	V _{DS} = -30V, V _{GS} = 0	-	-	-1	mA
	J102		V _{DS} = -50V, V _{GS} = 0	-	-	-1
Gate-Source Cutoff Voltage	V _{GS(off)}	I _D = -1mA, V _{DS} = -10V	-2.0	-	-5.0	V
Static Drain-Source On State Resistance	R _{DS(on)}	I _D = -3A, V _{GS} = -15V *	-	0.3	0.4	Ω
Drain-Source Saturation Voltage	V _{DS(on)}	I _D = -3A, V _{GS} = -15V *	-	-0.9	-1.2	V
Forward Transfer Admittance	y _{fs}	I _D = -3A, V _{DS} = -10V *	0.5	1.0	-	S
Input Capacitance	C _{iss}	V _{DS} = -10V, V _{GS} = 0	-	660	-	pF
Output Capacitance	C _{oss}	f = 1MHz	-	550	-	pF
Reverse Transfer Capacitance	C _{rss}		-	140	-	pF
Turn-On Delay Time	t _{d(on)}	I _D = -2A, V _{GS} = -15V R _L = 15Ω	-	15	-	ns
Rise Time	t _r		-	45	-	ns
Turn-Off Delay Time	t _{d(off)}		-	45	-	ns
Fall Time	t _f		-	55	-	ns
Body-Drain Diode Forward Voltage	V _{DF}	I _F = -3A, V _{GS} = 0	-	-0.9	-	V
Body-Drain Diode Reverse Recovery Time	t _{rr}	I _F = -3A, V _{GS} = 0	-	140	-	ns

*Pulse Test

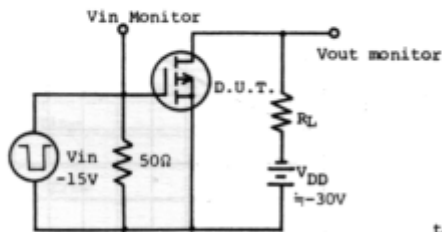
2SJ101,2SJ102



2SJ101,2SJ102



SWITCHING TIME TEST CIRCUIT



SWITCHING TIME TEST WAVEFORMS

