

N-Channel MOSFET Transistor

2SK345 / K345

40V / 5A

DATASHEET

OEM – Hitachi

Source: Hitachi Databook Power Mosfet Data 4/83

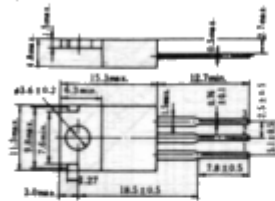
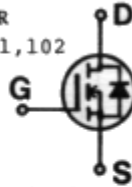
2SK345, 2SK346

SILICON N-CHANNEL MOS FET

HIGH SPEED POWER SWITCHING
 LOW FREQUENCY POWER AMPLIFIER
 Complementary pair with 2SJ101,102

Features:

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



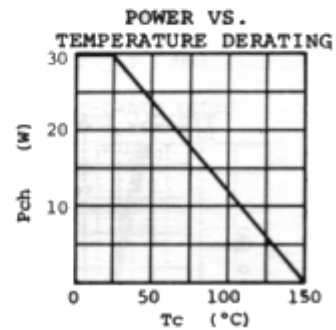
(JEDEC TO-220AB)

1. Gate
 2. Drain (Flange)
 3. Source
- (Dimensions in mm)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	K345	K346	Unit
Drain-Source Voltage	V _{DS}	40	60	V
Gate-Source Voltage	V _{GSS}	±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



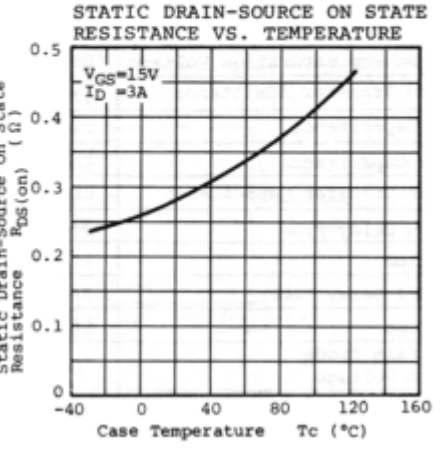
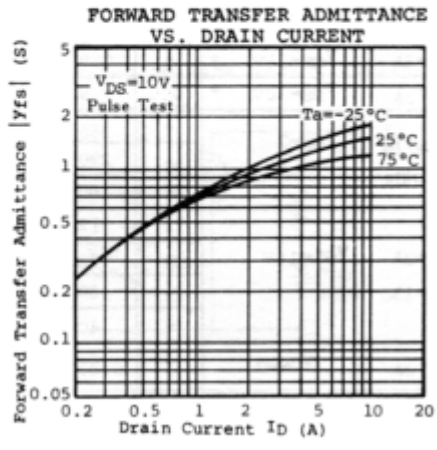
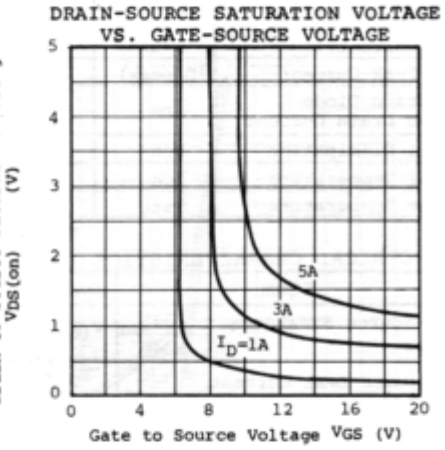
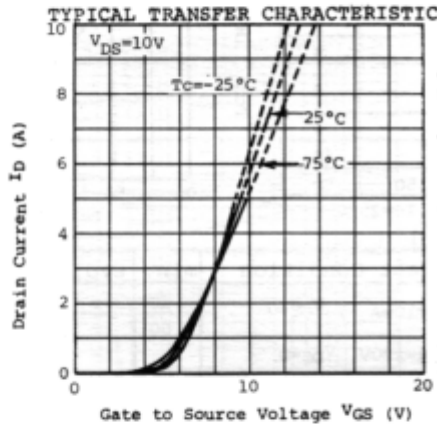
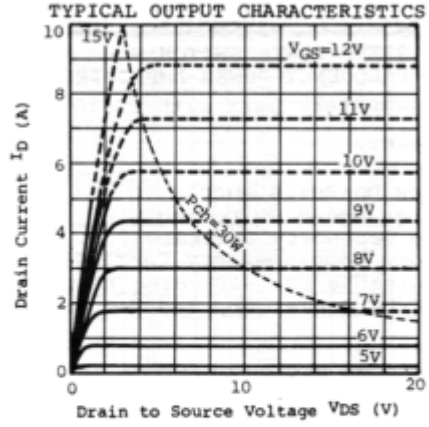
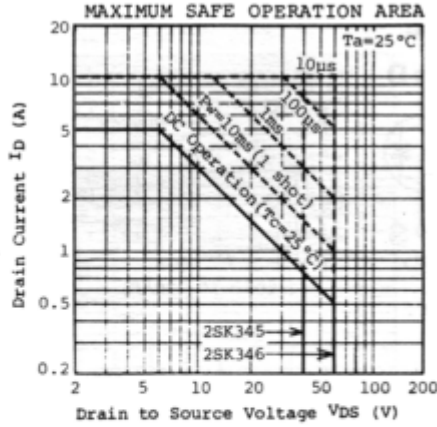
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Drain-Source Breakdown Voltage	V(BR)DSS	I _D =10mA, V _{GS} =0	40	-	-	V
			60	-	-	V
Gate-Source Leak Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0	-	-	±1	µA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0	-	-	1	mA
		V _{DS} =50V, V _{GS} =0	-	-	1	mA
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	0.9	-	S
Input Capacitance	C _{iss}	V _{DS} =10 V, V _{GS} =0 f=1MHz	-	350	-	pF
Output Capacitance	C _{oss}		-	290	-	pF
Reverse Transfer Capacitance	C _{rss}		-	80	-	pF
Turn-On Delay Time	t _{d(on)}	I _D =2A, V _{GS} =15V R _L =15Ω	-	12	-	ns
Rise Time	t _r		-	28	-	ns
Turn-Off Delay Time	t _{d(off)}		-	30	-	ns
Fall Time	t _f		-	40	-	ns
Body-Drain Diode Forward Voltage	V _{DF}	I _F =3A, V _{GS} =0	-	0.85	-	V
Body-Drain Diode Reverse Recovery Time	t _{rr}	I _F =3A, V _{GS} =0	-	160	-	ns

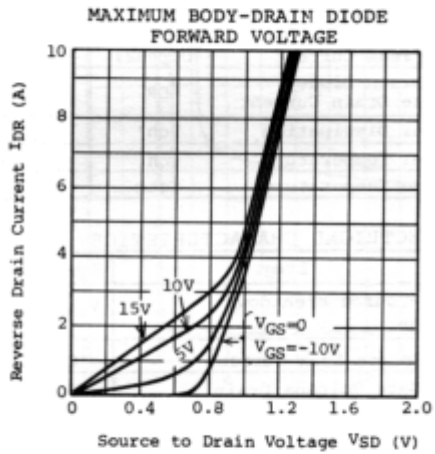
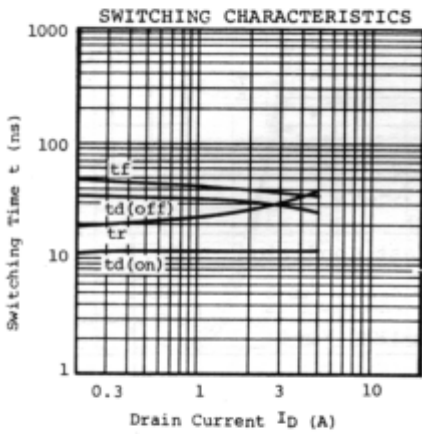
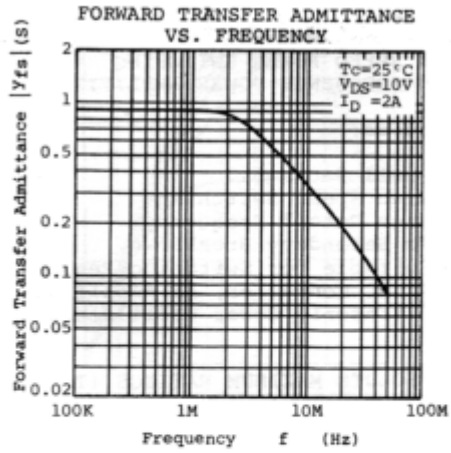
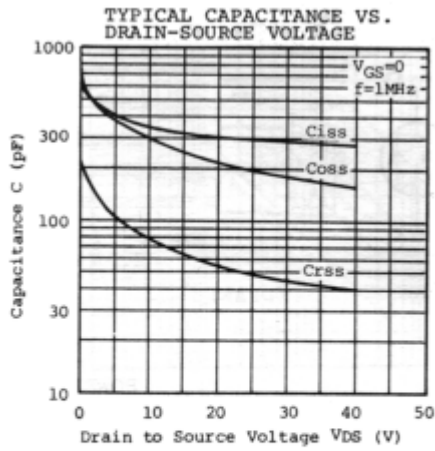


*Pulse Test

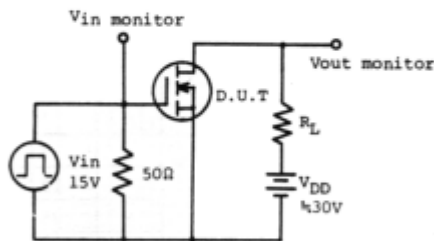
2SK345,2SK346



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SWITCHING TIME TEST CIRCUIT



SWITCHING TIME TEST WAVEFORMS

