

N-Channel MOSFET Transistor

2SK299 / K299

450V / 8A

DATASHEET

OEM – Hitachi

Source: Hitachi Databook Power Mosfet Data 4/83

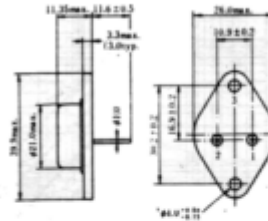
2SK298, 2SK299

SILICON N-CHANNEL MOS FET

HIGH SPEED POWER SWITCHING
HIGH FREQUENCY POWER AMPLIFIER

Features;

- Low On-Resistance.
- High Speed Switching.
- High Cutoff Frequency.
- No Secondary Breakdown.
- Suitable for Switching Regulator, DC-DC Converter, RF Amplifiers, and Ultrasonic Power Oscillators.



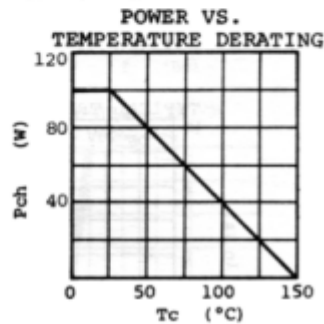
(JEDEC TO-3)

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

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	K298	K299	Unit
Drain-Source Voltage	V _{DS}	400	450	V
Gate-Source Voltage	V _{GSS}	±20		V
Drain Current	I _D	8		A
Drain Peak Current	I _{D(peak)}	12		A
Body-Drain Diode Reverse Drain Current	I _{DR}	8		A
Channel Dissipation	P _{ch} *	100		W
Channel Temperature	T _{ch}	150		°C
Storage Temperature	T _{stg}	-55 ~ +150		°C

*Value at Tc=25°C



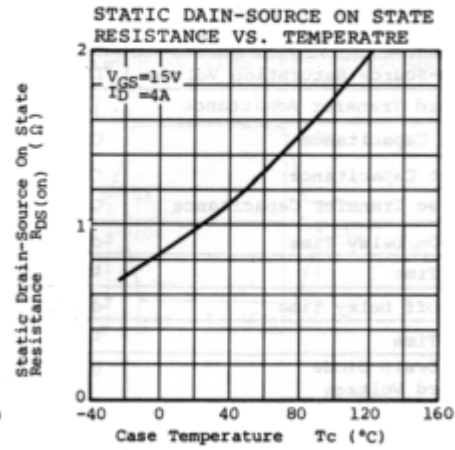
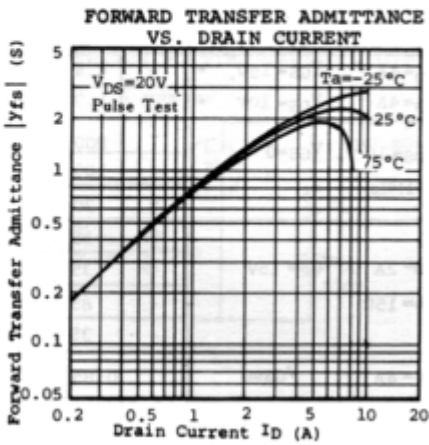
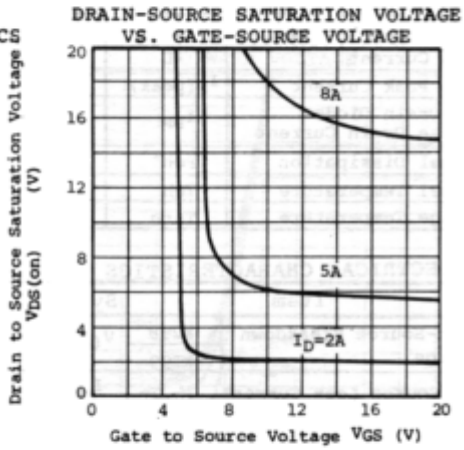
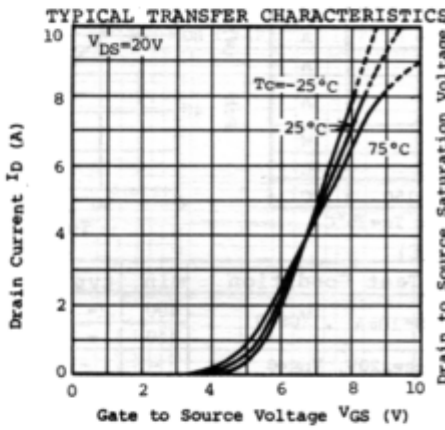
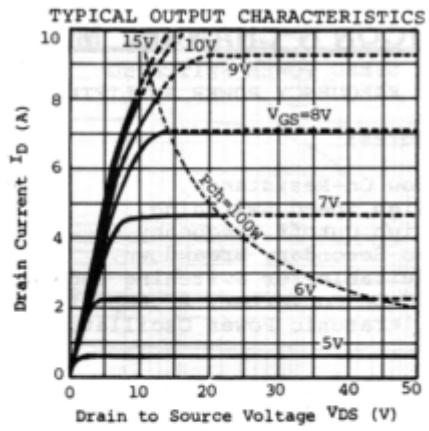
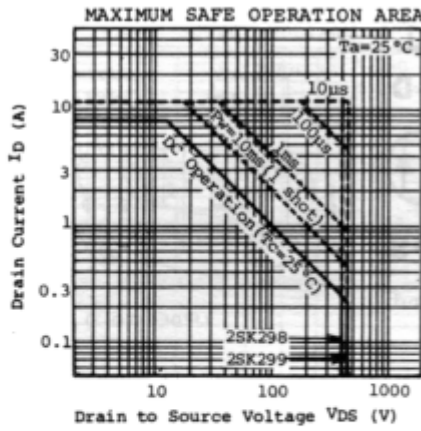
ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Drain-Source Breakdown Voltage	V(BR) _{DSS}	I _D =10mA, V _{GS} =0	400	-	-	V
			450	-	-	V
Gate-Source Leak Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0	-	-	±1	µA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =320V, V _{GS} =0	-	-	1	mA
		V _{DS} =360V, V _{GS} =0	-	-	-	mA
Gate-Source Cutoff Voltage	V _{GS(off)}	I _D =1mA, V _{DS} =10V	1.0	-	5.0	V
Static Drain-Source On State Resistance	R _{DS(on)}	I _D =4A, V _{GS} =15V *	-	1.1	1.75	Ω
Drain-Source Saturation Voltage	V _{DS(on)}	I _D =4A, V _{GS} =15V *	-	4.4	7.0	V
Forward Transfer Admittance	y _{fs}	I _D =4A, V _{DS} =10V *	1.2	1.7	-	S
Input Capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0	-	800	-	pF
Output Capacitance	C _{oss}	f=1MHz	-	180	-	pF
Reverse Transfer Capacitance	C _{rss}		-	20	-	pF
Turn-On Delay Time	t _{d(on)}	I _D =2A, V _{GS} =15V R _L =15Ω	-	15	-	ns
Rise Time	t _r		-	35	-	ns
Turn-Off Delay Time	t _{d(off)}		-	85	-	ns
Fall Time	t _f		-	35	-	ns
Body-Drain Diode Forward Voltage	V _{DF}	I _F =4A, V _{GS} =0	-	0.85	-	V
Body-Drain Diode Reverse Recovery Time	t _{rr}	I _F =4A, V _{GS} =0	-	500	-	ns

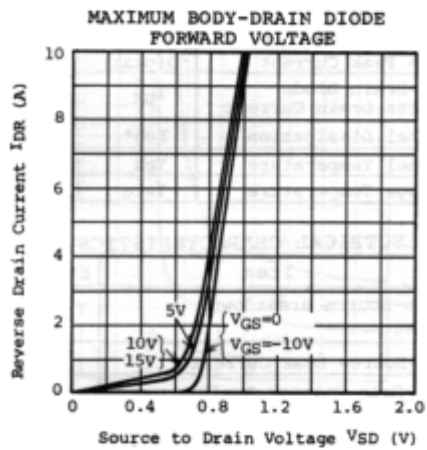
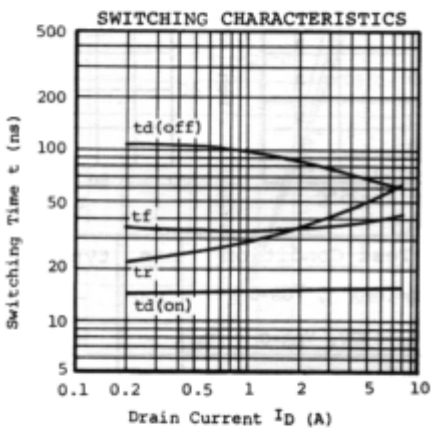
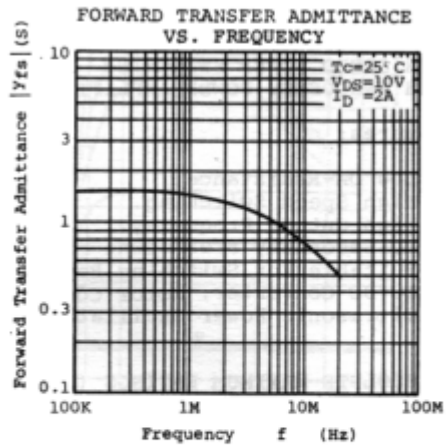
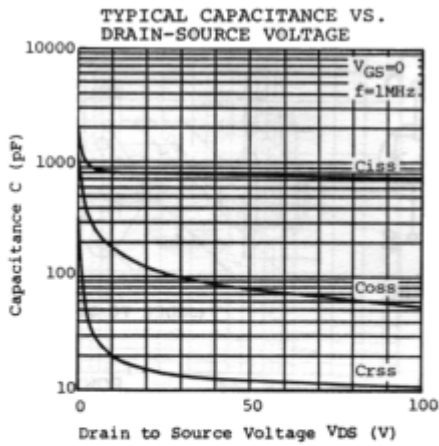


*Pulse Test

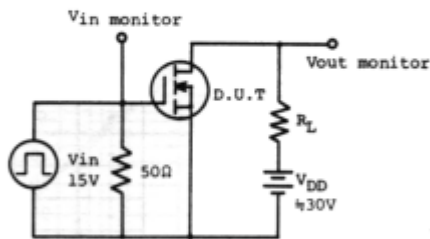
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SWITCHING TIME TEST CIRCUIT



SWITCHING TIME TEST WAVEFORMS

