

PRELIMINARY SPECIFICATION



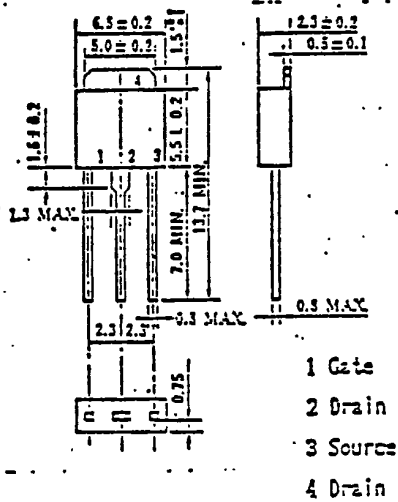
MOS FIELD EFFECT TRANSISTOR

2SK801

FAST SWITCHING
N-CHANNEL SILICON POWER MOS FET

PACKAGE DIMENSIONS

in millimeters



Features

- Suitable for switching power supplies, actuator controls and pulse circuits
- 4V Gate Drive — Logic level —
- Low RDS(on)
- No second breakdown

Absolute Maximum Ratings(Ta=25°C)

Drain to Source Voltage	V _{DSS}	30V
Gate to Source Voltage	V _{GSS}	± 20V
Continuous Drain Current	I _{D(DC)}	±2.0A
Pulse Drain Current	I _{D(pulse)} **	±8.0A
Total Power Dissipation	P _T	0.6W
Total Power Dissipation	P _{T**}	12W
Channel Temperature	T _{ch}	150 °C
Storage Temperature	T _{stg}	-55to+150 °C

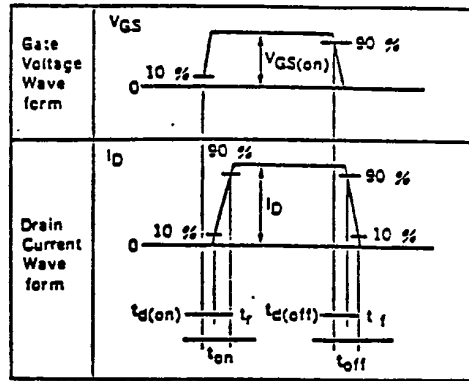
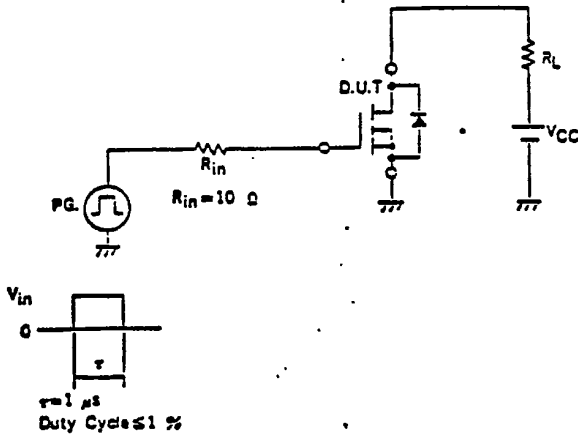
* PW ≤ 100 μs, Duty Cycles ≤ 2 %

** Tc=25 °C

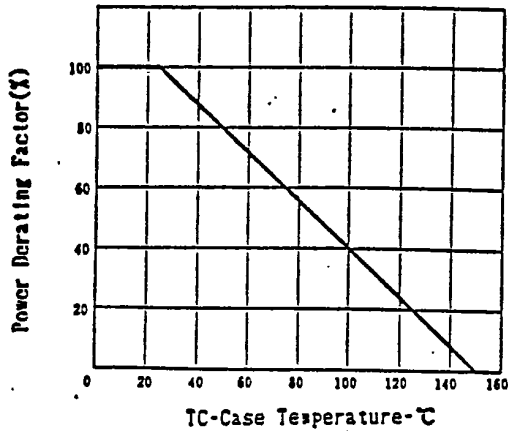
Electrical Characteristics (Ta=25 °C)

Characteristics	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain Leakage Current	I _{DSS}			10	μA	V _{DS} =30 V, V _{GS} =0
Gate to Source Leakage Current	I _{GSS}			100	nA	V _{GS} = 20V, V _{DS} =0
Gate to Source Cutoff Voltage	V _{GS(off)}	1.0		2.5	V	V _{DS} =10V, I _D =1.0mA
Forward Transfer Admittance	y _{fs}	1.0			S	V _{DS} =10V, I _D =1.0A
Drain To Source On-State Resistance	R _{DS(on)}			0.35	Ω	V _{GS} =10V, I _D =1.0A
Drain to Source On-State Resistance	R _{DS(on)}			0.50	Ω	V _{GS} =4.0V I _D =1.0A
Input Capacitance	C _{iss}		270		pF	V _{DS} = 10V
Output Capacitance	C _{oss}		150		pF	V _{GS} =0
Reverse Transfer Capacitance	C _{rss}		70		pF	f=1.0MHz
Turn-On Delay Time	t _{d(on)}		45		ns	I _D =1.0A,
Rise Time	t _r		40		ns	V _{GS(on)} = 10V
Turn-Off Delay Time	t _{d(off)}		450		ns	V _{cc} =15V,
Fall Time	t _f		110		ns	R _L =15 Ω

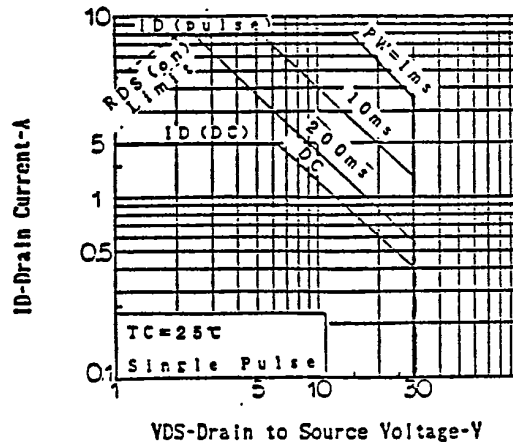
TURN-ON AND TURN-OFF TIME TEST CIRCUIT



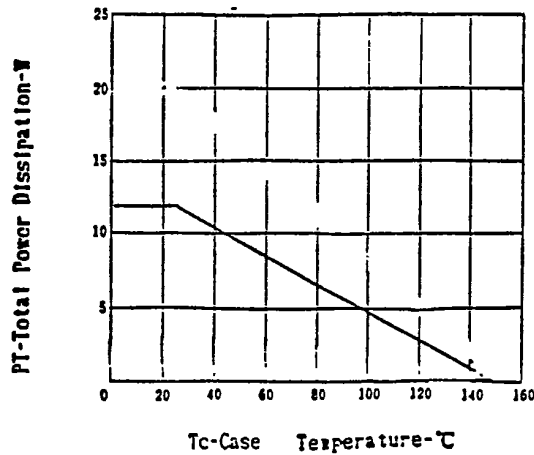
DERATING FACTOR OF FORWARD BIAS SAFE OPERATING AREA



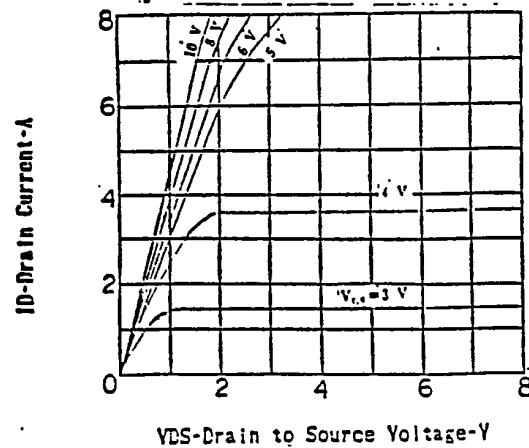
FORWARD BIAS SAFE OPERATING AREA

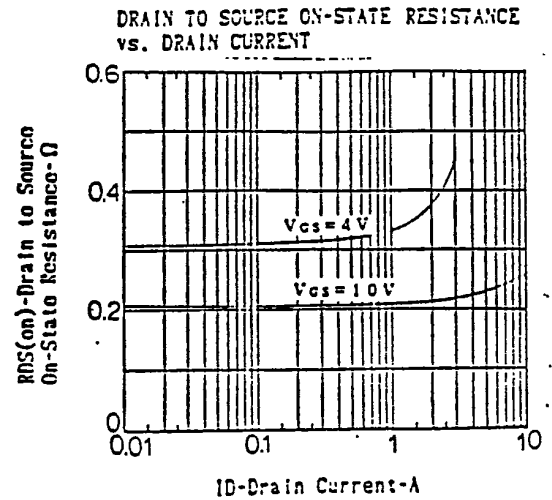
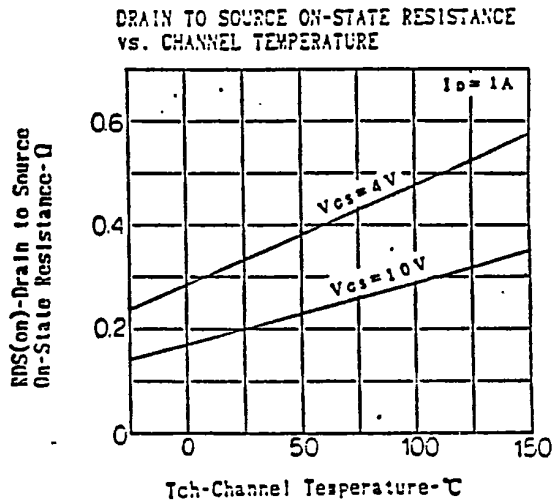
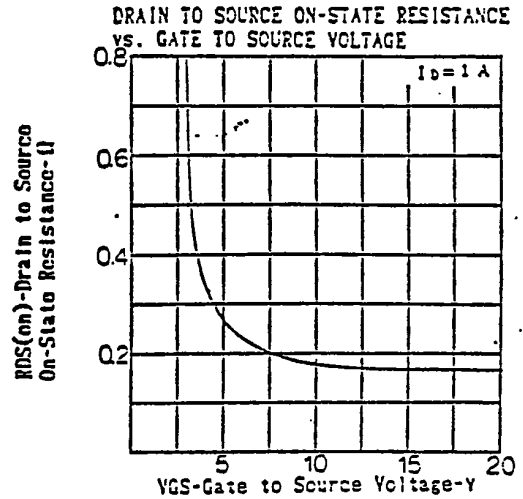
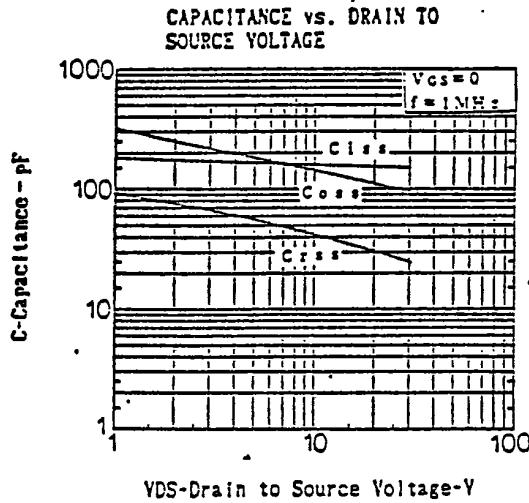
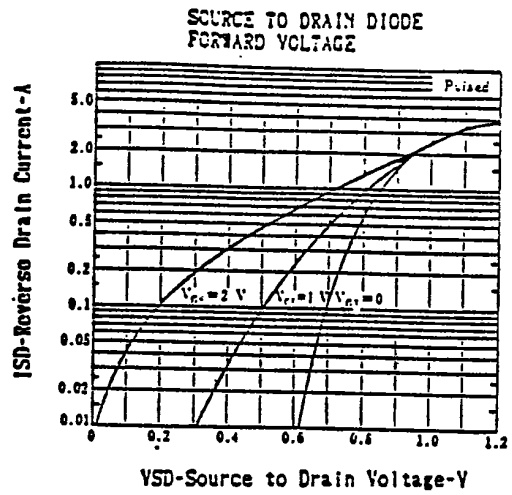
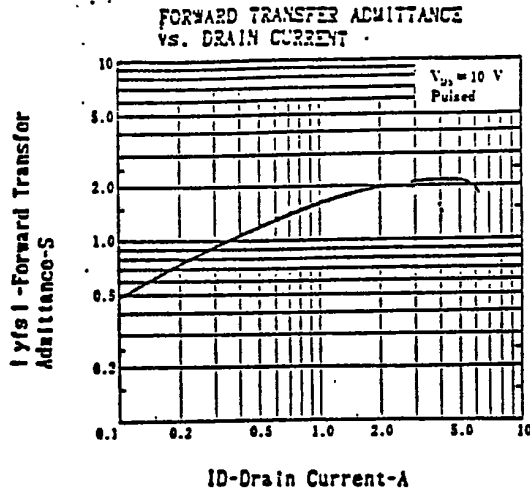


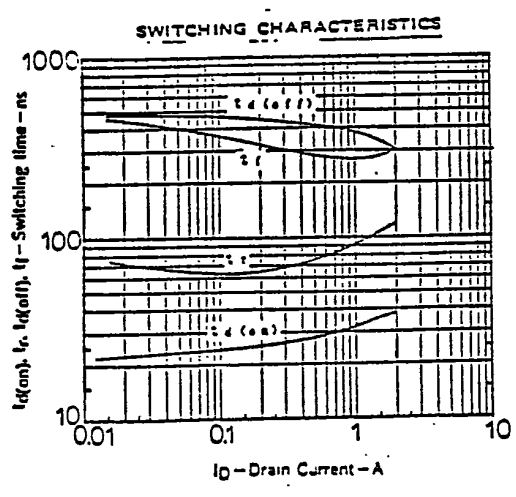
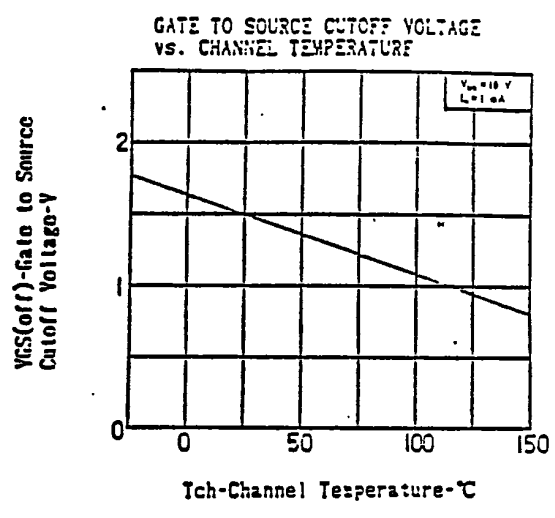
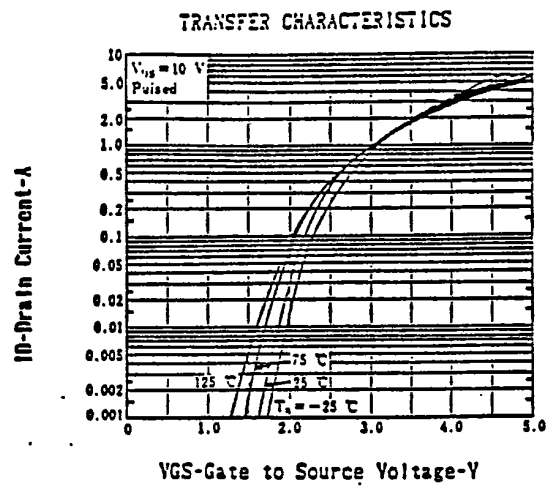
TOTAL POWER DISSIPATION vs. CASE TEMPERATURE



DRAIN CURRENT vs. DRAIN TO SOURCE VOLTAGE







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