

N-CHANNEL MOS FIELD EFFECT POWER TRANSISTOR

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2SK800

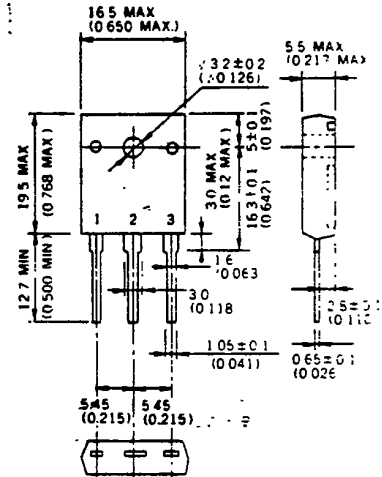
DESCRIPTION The 2SK800 is N-channel MOS Field Effect Power Transistor designed for converters.

FEATURES

- Suitable for switching power supplies, actuator controls, and pulse circuits
- Low $R_{DS(on)}$
- No second breakdown

ABSOLUTE MAXIMUM RATINGS**Maximum Temperatures**Storage Temperature -55 to $+150$ °CChannel Temperature 150 °C Maximum**Maximum Power Dissipation ($T_C = 25$ °C)**

Total Power Dissipation 120 W

Maximum Voltages and Currents ($T_a = 25$ °C) V_{DSS} Drain to Source Voltage 450 V V_{GSS} Gate to Source Voltage ± 20 V $I_{D(DC)}$ Drain Current (DC) ± 18 A $I_{D(pulse)}$ Drain Current (pulse)* ± 60 A* $PW \leq 100$ μs , Duty Cycle $\leq 2\%$ **PACKAGE DIMENSIONS**
in millimeters (inches)

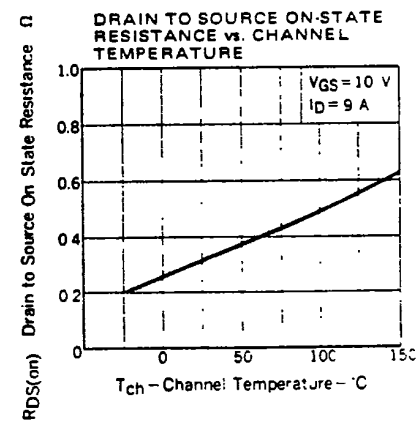
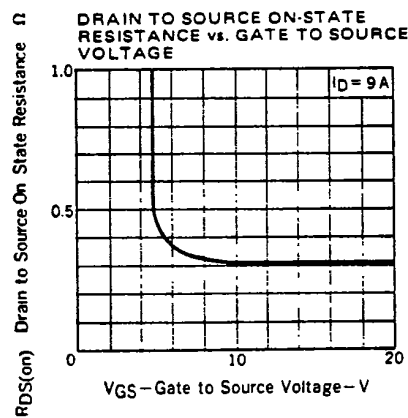
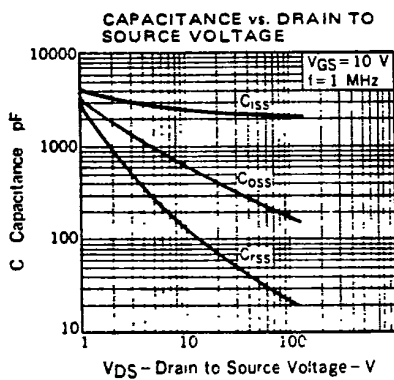
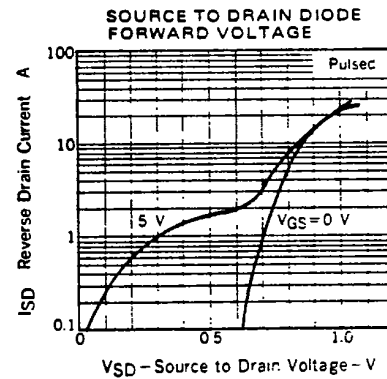
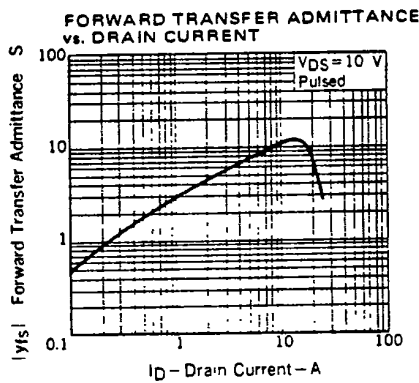
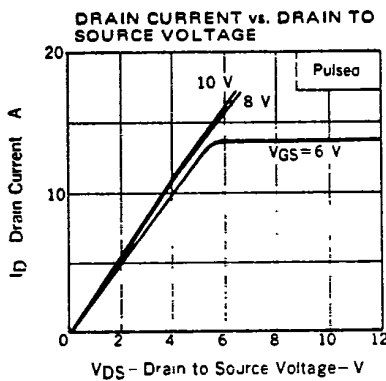
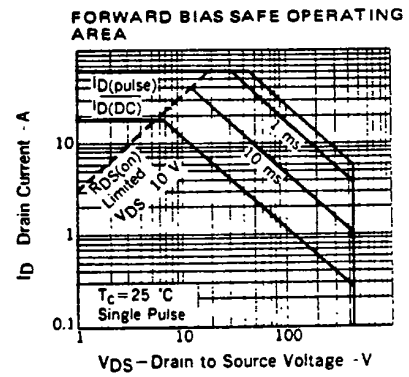
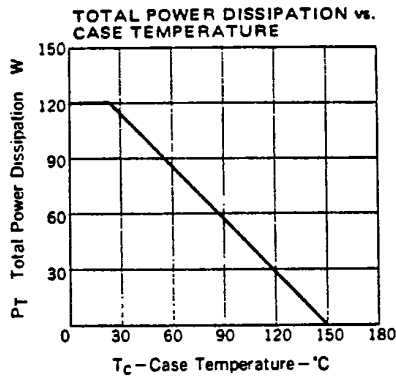
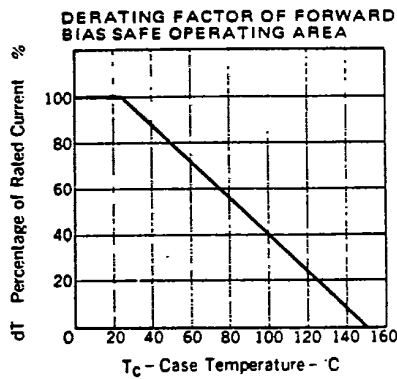
1. Gate
2. Drain (Fin)
3. Source

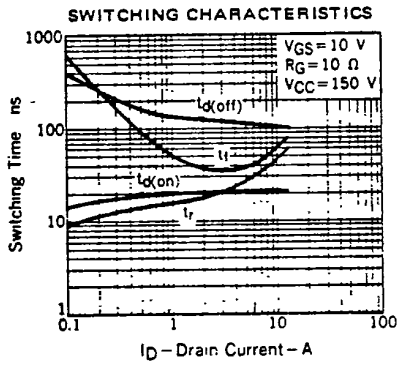
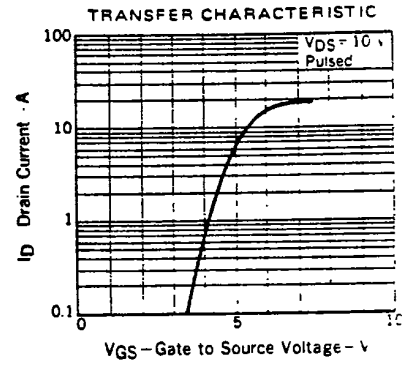
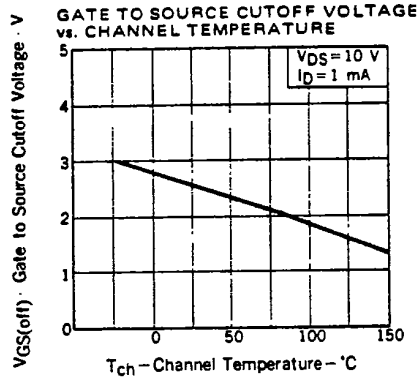
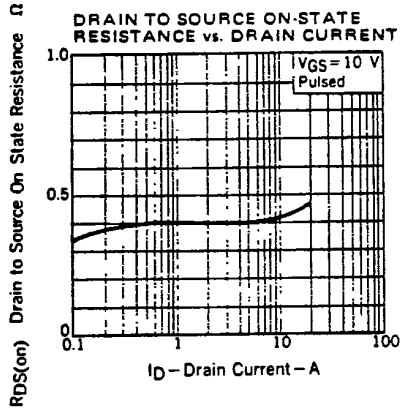
ELECTRICAL CHARACTERISTICS ($T_a = 25$ °C)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
I_{DSS}	Drain Leakage Current			100	μA	$V_{DS} = 450$ V, $V_{GS} = 0$
I_{GSS}	Gate to Source Leakage Current			± 100	nA	$V_{GS} = \pm 20$ V, $V_{DS} = 0$
$V_{GS(off)}$	Gate to Source Cutoff Voltage	1.5		3.5	V	$V_{DS} = 10$ V, $I_D = 1$ mA
$ y_{fs} $	Forward Transfer Admittance	8.0			S	$V_{DS} = 10$ V, $I_D = 9$ A
$R_{DS(on)}$	Drain to Source On-State Resistance		0.32	0.38	Ω	$V_{GS} = 10$ V, $I_D = 9$ A
C_{iss}	Input Capacitance		2600		pF	
C_{oss}	Output Capacitance		610		pF	$V_{DS} = 10$ V, $V_{GS} = 0$, $f = 1$ MHz
C_{rss}	Reverse Transfer Capacitance		140		pF	
$t_{d(on)}$	Turn-On Delay Time		20		ns	
t_r	Rise Time		40		ns	$I_D = 9$ A, $V_{CC} = 150$ V
$t_{d(off)}$	Turn-Off Delay Time		120		ns	$V_{GS(on)} = 10$ V
t_f	Fall Time		55		ns	$R_{in} = 10$ Ω

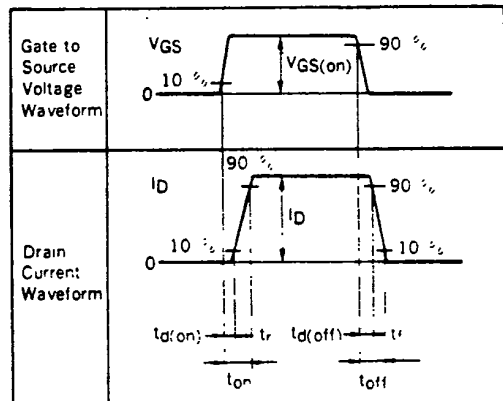
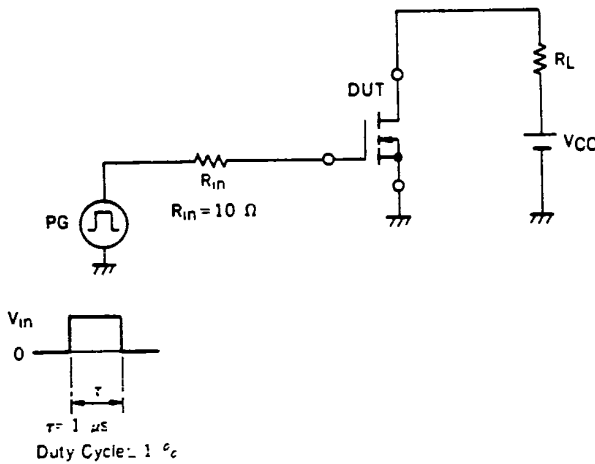
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TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)





SWITCHING TIME TEST CIRCUIT





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