

NEC
ELECTRON DEVICE

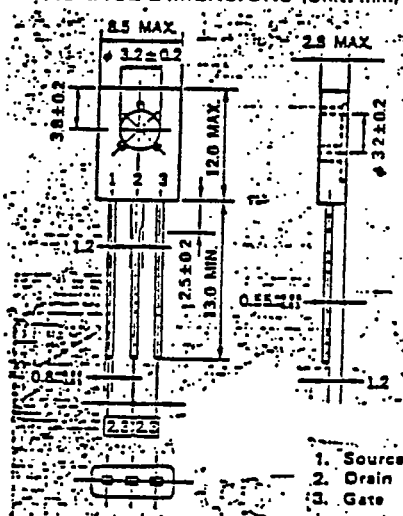
PRELIMINARY SPECIFICATION

MOS FIELD EFFECT TRANSISTOR

2SK802

FAST SWITCHING N-CHANNEL SILICON POWER MOS FET

PACKAGE DIMENSIONS (Unit: mm)

**Features**

Suitable for switching power supplies,
actuator controls and pulse circuits
4V Gate Drive — Logic level —
Low $R_{DS(on)}$
No second breakdown

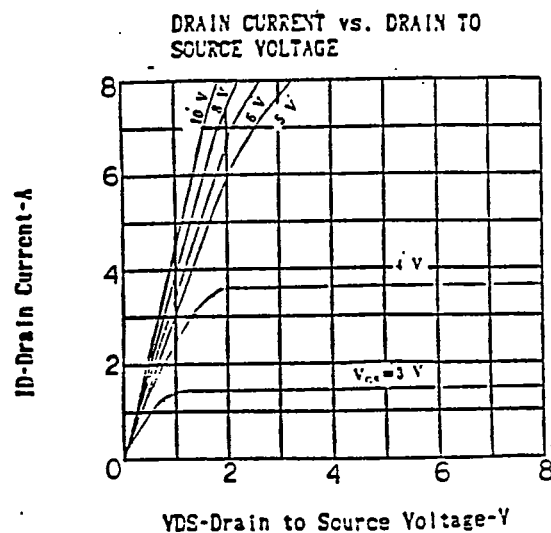
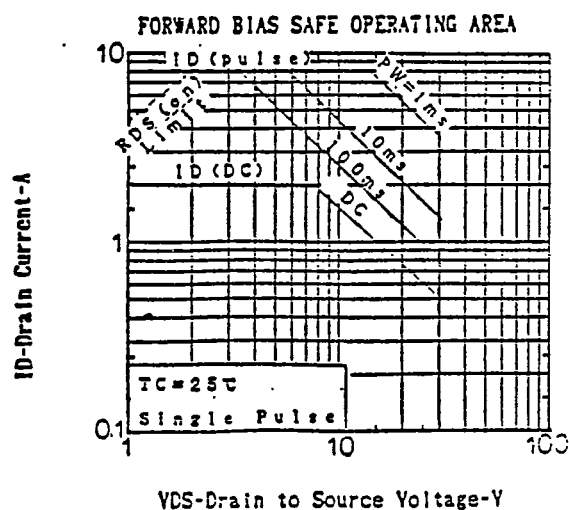
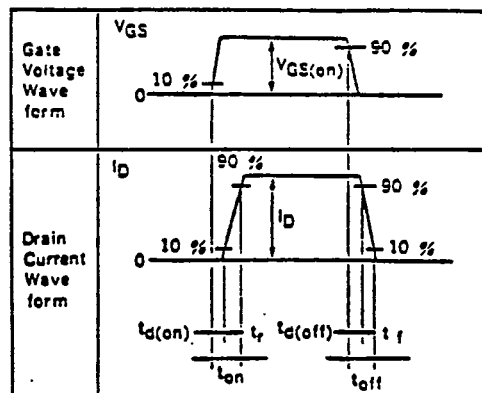
Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

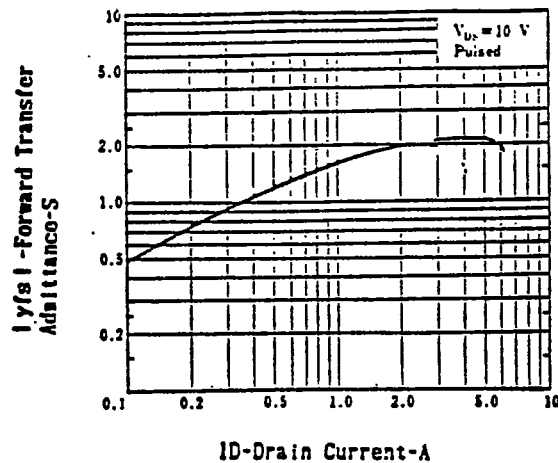
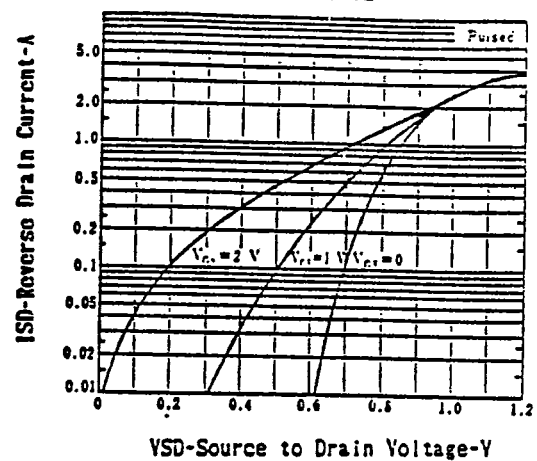
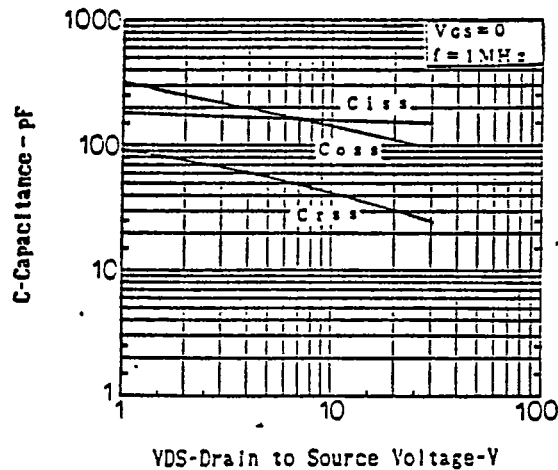
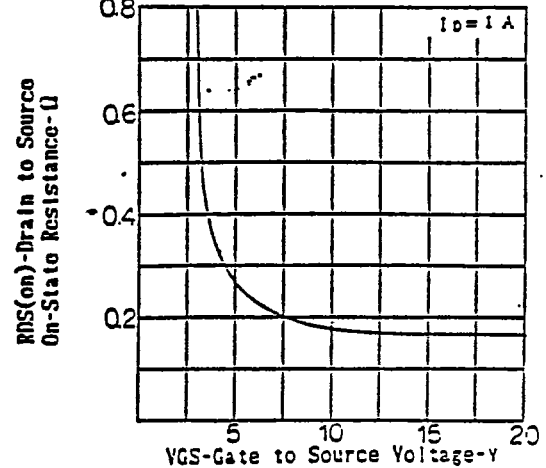
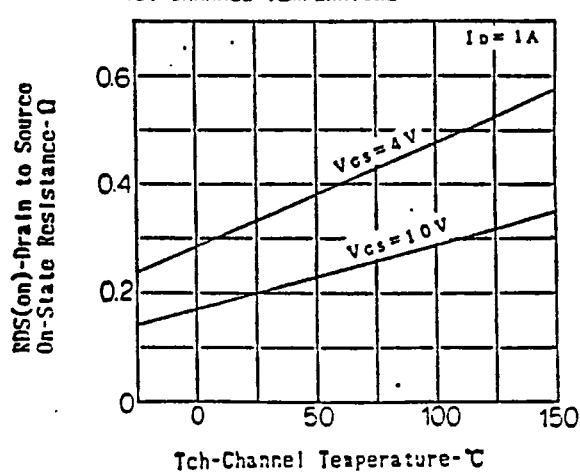
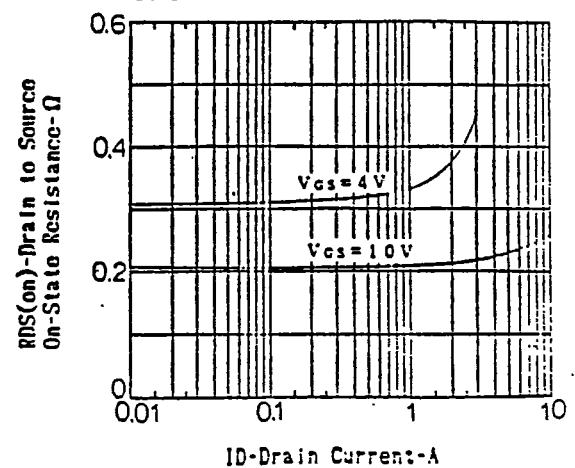
Drain to Source Voltage	V_{DS}	30V
Gate to Source Voltage	V_{GS}	$\pm 20V$
Continuous Drain Current	$I_D(DC)$	$\pm 2.0A$
Pulse Drain Current	$I_D(pulse)$	$\pm 8.0A$
Total Power Dissipation	P_T	1.3W
Total Power Dissipation	P_{T*}	15W
Channel Temperature	T_{ch}	150 $^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150 $^\circ\text{C}$
* $P_W \leq 100 \mu s$, Duty Cycles $\leq 2\%$		
** $T_c = 25^\circ\text{C}$		

Electrical Characteristics ($T_a=25^\circ\text{C}$)

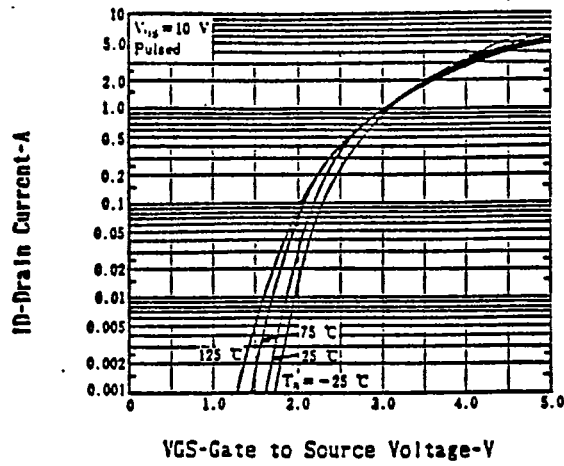
Characteristics	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain Leakage Current	I_{DSS}			10	μA	$V_{DS}=30V, V_{GS}=0$
Gate to Source Leakage Current	I_{GSS}			± 100	nA	$V_{GS}=\pm 20V, V_{DS}=0$
Gate to Source Cutoff Voltage	$V_{GS(off)}$	1.0		2.5	V	$V_{DS}=10V, I_D=1.0mA$
Forward Transfer Admittance	$ 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	$R_L=15\Omega$

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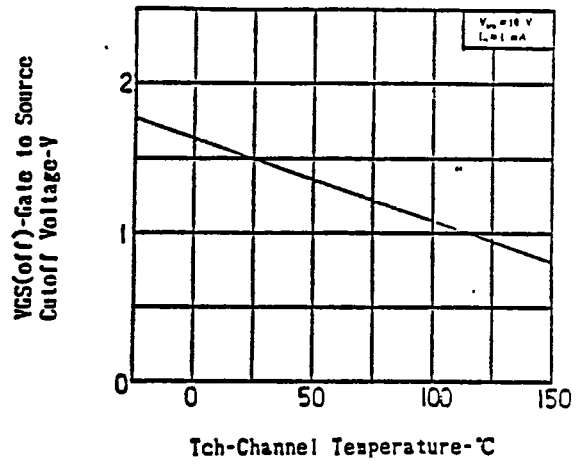


FORWARD TRANSFER ADMITTANCE
vs. DRAIN CURRENTSOURCE TO DRAIN DIODE
FORWARD VOLTAGECAPACITANCE vs. DRAIN TO
SOURCE VOLTAGEDRAIN TO SOURCE ON-STATE RESISTANCE
vs. GATE TO SOURCE VOLTAGEDRAIN TO SOURCE ON-STATE RESISTANCE
vs. CHANNEL TEMPERATUREDRAIN TO SOURCE ON-STATE RESISTANCE
vs. DRAIN CURRENT

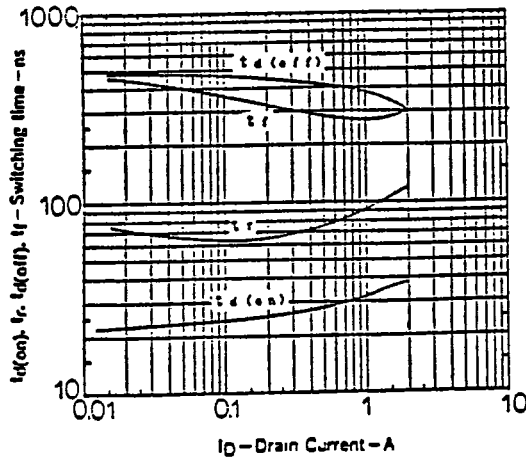
TRANSFER CHARACTERISTICS



GATE TO SOURCE CUTOFF VOLTAGE vs. CHANNEL TEMPERATURE



SWITCHING CHARACTERISTICS



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