



PRELIMINARY SPECIFICATION

MOS FIELD EFFECT POWER TRANSISTOR ARRAY

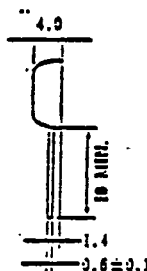
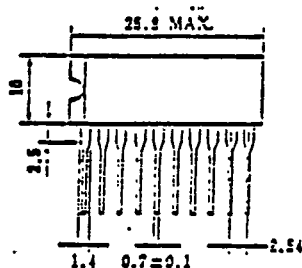
PA1556E

FAST SWITCHING

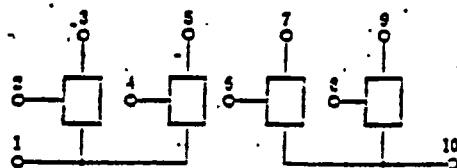
N-CHANNEL SILICON POWER MOS FET ARRAY

PACKAGE DIMENSIONS

in millimeters



2,4,6,8:Gate
3,5,7,9:Drain
1,10:Source



ELECTRICAL CHARACTERISTICS (Ta=25°C.)

FEATURES

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

ABSOLUTE MAXIMUM RATINGS (Ta=25 °C)

Drain to Source Voltage	V_{DS}	100V
Gate to Source Voltage	V_{GS}	$\pm 20V$
Continuous Drain Current	$I_D(DC)$	5A
Total Power Dissipation	PT	3.5W
Total Power Dissipation	PT*	28W
Channel Temperature	Tch	150°C
Storage Temperature	Tstg	-55~150 °C
	*Tc	25°C

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Drain Leakage Current	I_{DSS}			10	μA	$V_{DS}=100V, V_{GS}=0$
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	$V_{DS}=10V, I_D=1mA$
Forward Transfer Admittance	$ y_{fs} $	5			S	$V_{DS}=10V, I_D=3A$
Drain to Source On-State Resistance	$R_{DS(on)}$		0.20	0.45	Ω	$V_{GS}=10V, I_D=5A$
			0.25	0.50	Ω	$V_{GS}=4V, I_D=5A$
Input Capacitance	C_{iss}		300		pF	$V_{DS}=10V$
Output Capacitance	C_{oss}		250		pF	$V_{GS}=0$
Reverse Transfer Capacitance	C_{rss}		45		pF	$f=1MHz$
Turn-On Delay Time	$t_d(on)$		10		ns	$I_D=3A, V_{GS}=50V$
Rise Time	t_r		40		ns	$V_{GS(on)}=10V$
Turn-Off Delay Time	$t_d(off)$		110		ns	$R_L=17 \Omega$
Fall Time	t_f		30		ns	$R_{in}=10 \Omega$

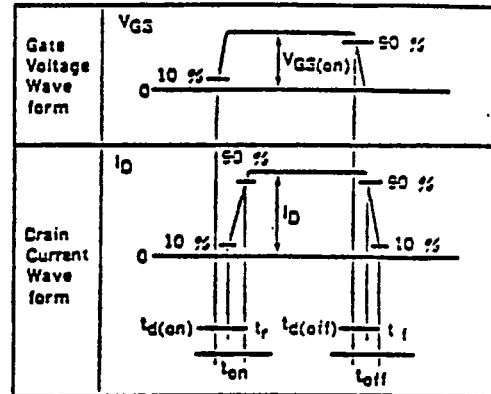
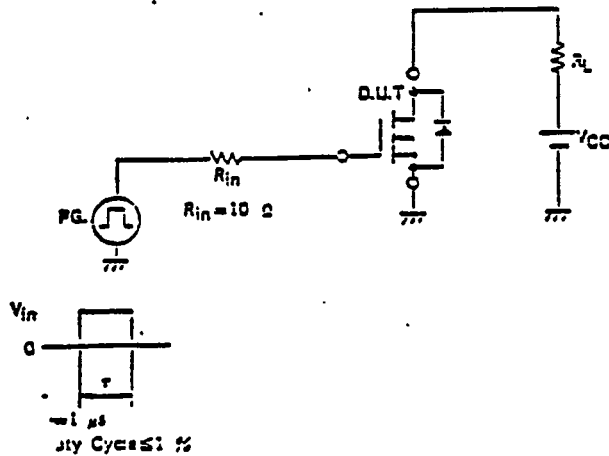
Apr. 1, 1986

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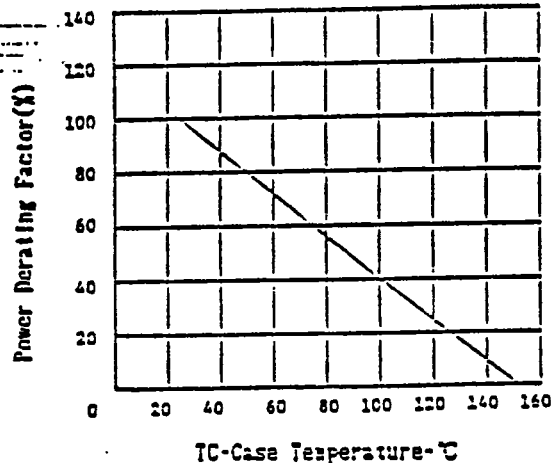
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NEC ELECTRON DEVICE

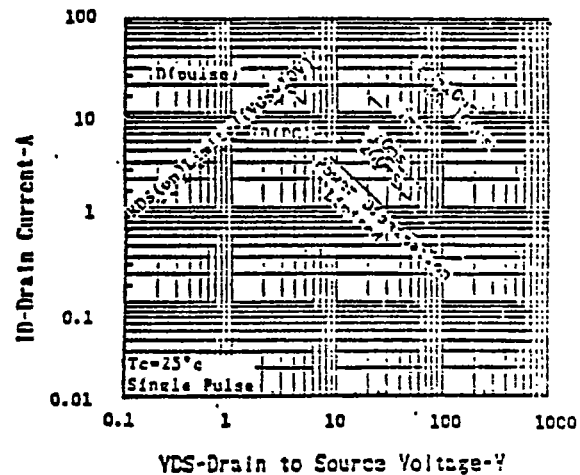
TURN-ON AND TURN-OFF TIME TEST CIRCUIT



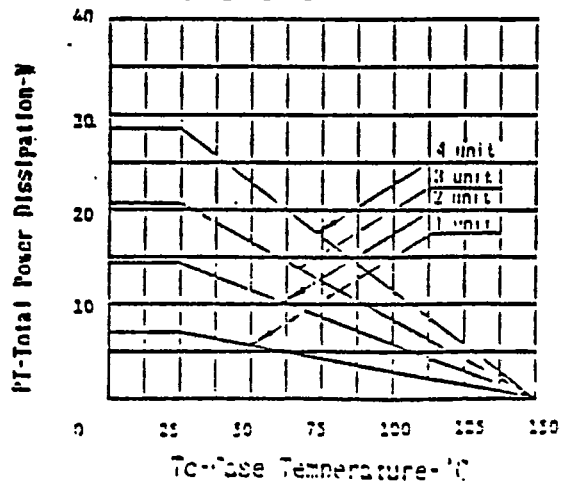
DERATING FACTOR OF FORWARD BIAS SAFE OPERATING AREA



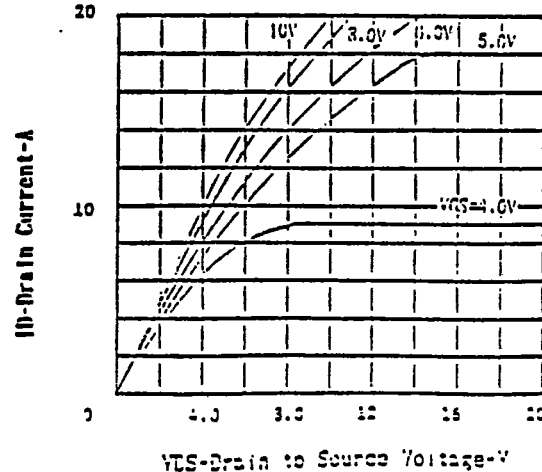
FORWARD BIAS SAFE OPERATING AREA



TOTAL POWER DISSIPATION vs. CASE TEMPERATURE



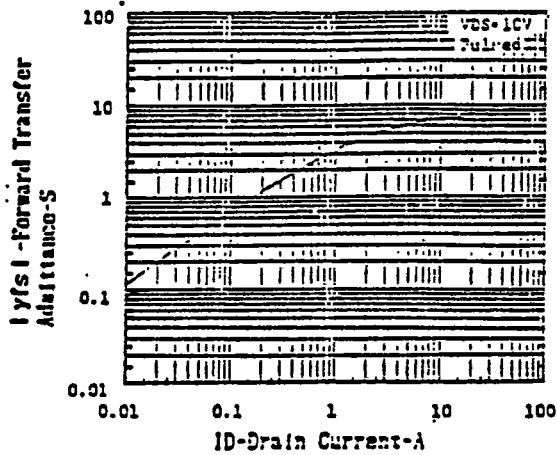
DRAIN CURRENT vs. DRAIN TO SOURCE VOLTAGE



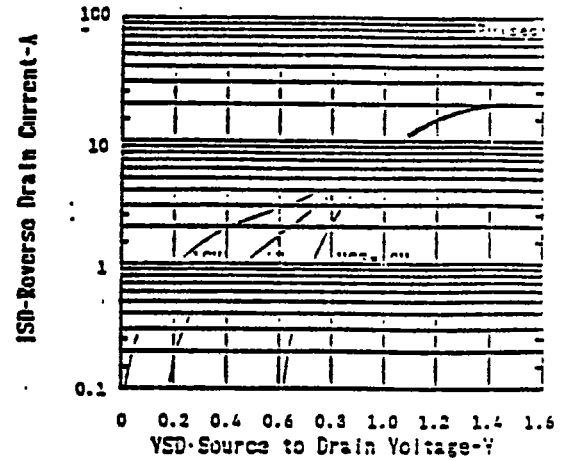
NEC ELECTRON DEVICE

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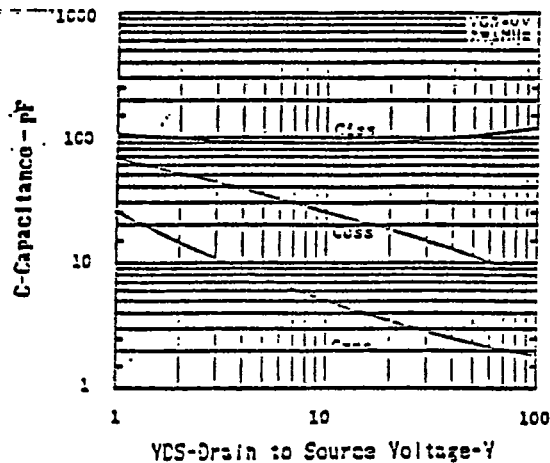
FORWARD TRANSFER ADMITTANCE
vs. DRAIN CURRENT



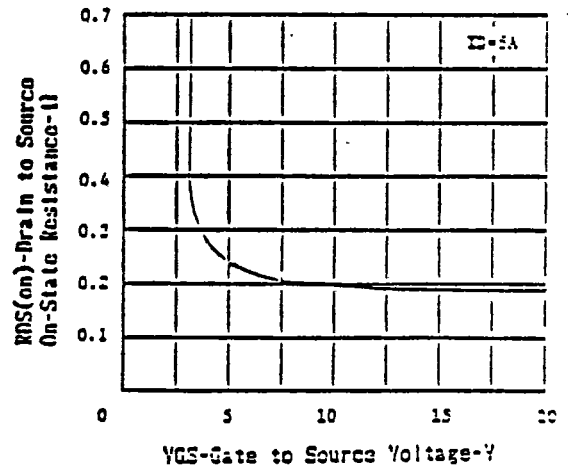
SOURCE TO DRAIN DIODE
FORWARD VOLTAGE



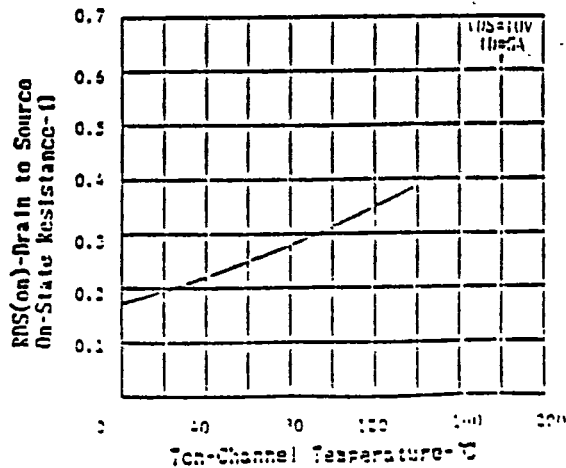
CAPACITANCE vs. DRAIN TO
SOURCE VOLTAGE



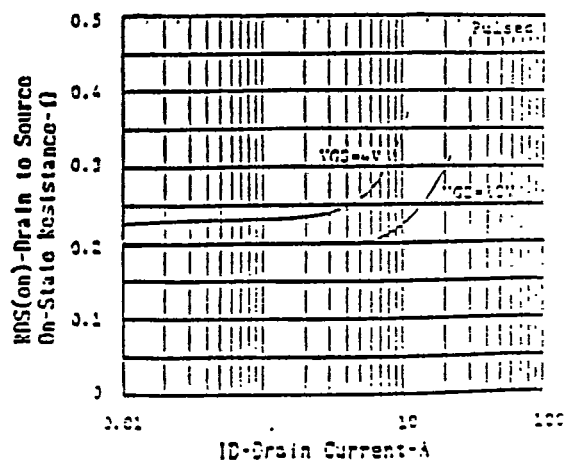
DRAIN TO SOURCE ON-STATE RESISTANCE
vs. GATE TO SOURCE VOLTAGE

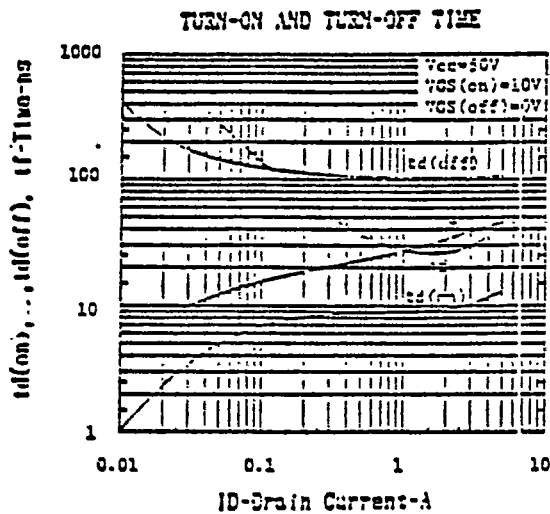
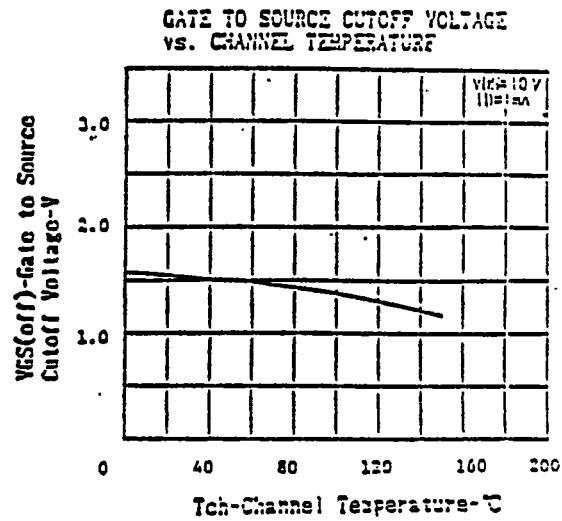
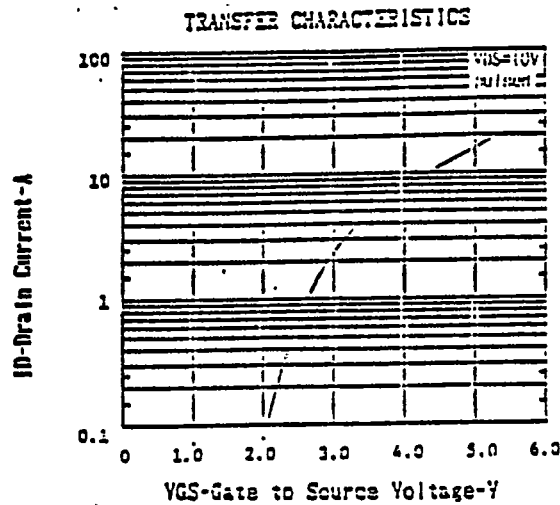


DRAIN TO SOURCE ON-STATE RESISTANCE
vs. CHANNEL TEMPERATURE



DRAIN TO SOURCE ON-STATE RESISTANCE
vs. DRAIN CURRENT





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