



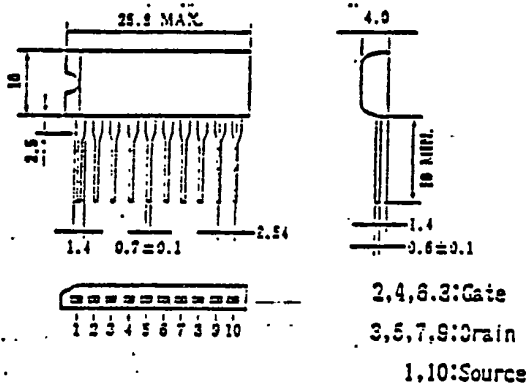
PRELIMINARY SPECIFICATION

MOS FIELD EFFECT POWER TRANSISTOR ARRAY

PA1556E

FAST SWITCHING
N-CHANNEL SILICON POWER MOS FET ARRAY

PACKAGE DIMENSIONS
in millimeters



FEATURES

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

ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ C$)

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	T_{ch}	150°C
Storage Temperature	T_{stg}	-55~150 °C
		# $T_c=25^\circ C$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Drain Leakage Current	I_{DSS}			10	μA	$V_{DS}=\pm 100V, V_{GS}=0$
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	$V_{DS}=\pm 10V, I_D=1mA$
Forward Transfer Admittance	$ y_{fs} $	5			S	$V_{DS}=\pm 10V, I_D=3A$
Drain to Source On-State Resistance	$R_{DS(on)}$		0.20	0.45	Ω	$V_{GS}=\pm 10V, I_D=5A$
			0.25	0.50	Ω	$V_{GS}=\pm 4V, I_D=5A$
Input Capacitance	C_{iss}		900		pF	$V_{DS}=\pm 10V$
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	$I_D=3A, V_{cc}=50V$
Rise Time	t_r		40		ns	$V_{GS(on)}=\pm 10V$
Turn-Off Delay Time	$t_{d(off)}$		110		ns	$R_L=17 \Omega$
Fall Time	t_f		30		ns	$R_{in}=10\Omega$

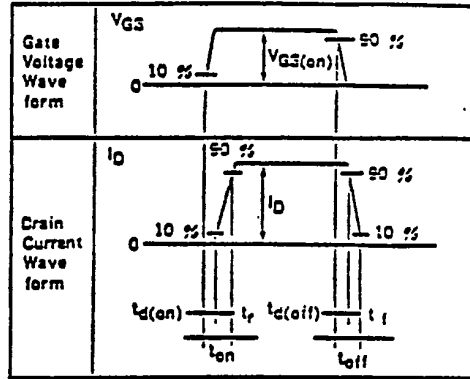
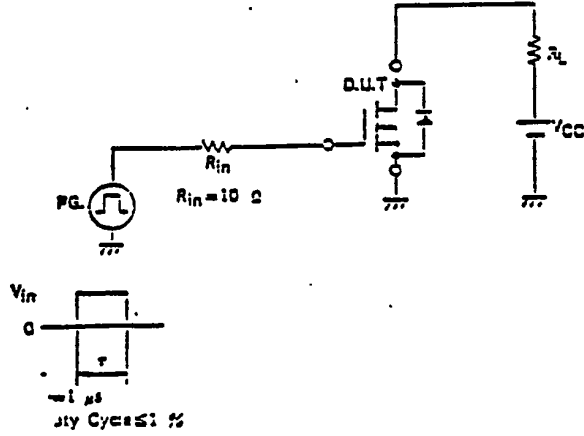
Apr. 1, 1986

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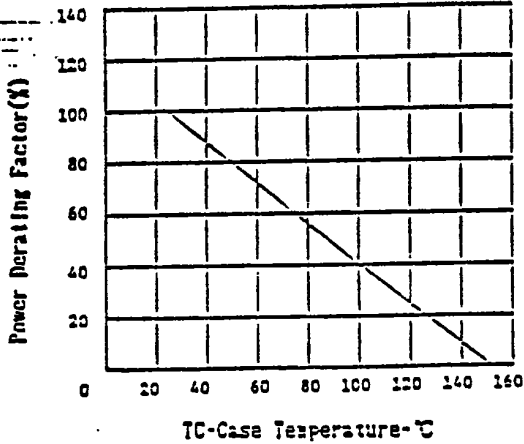
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NEC ELECTRONIC DEVICE

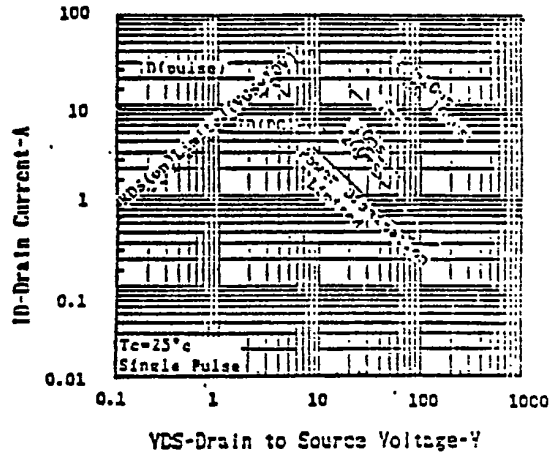
TURN-ON AND TURN-OFF TIME TEST CIRCUIT



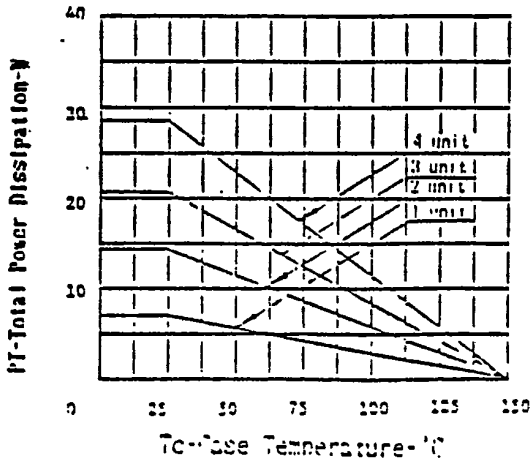
DERATING FACTOR OF FORWARD BIAS SAFE OPERATING AREA



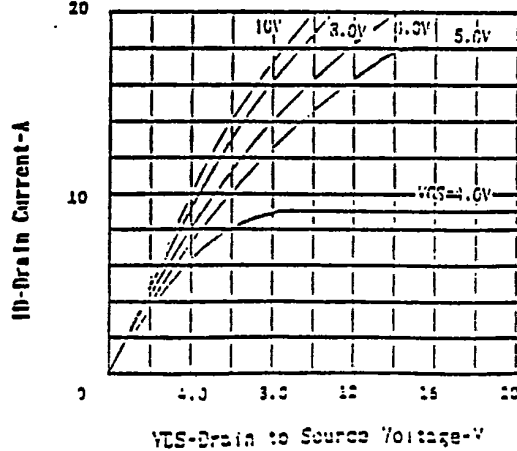
FORWARD BIAS SAFE OPERATING AREA



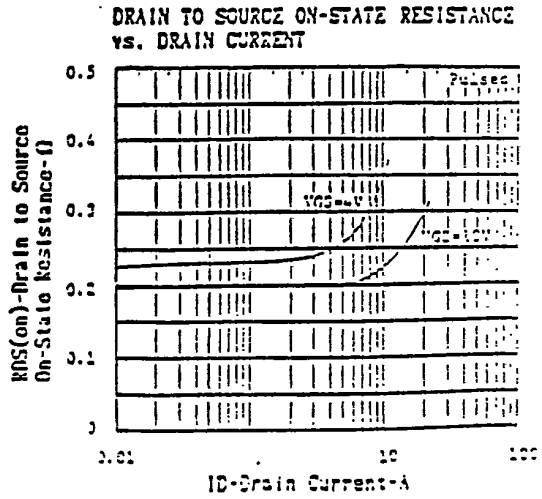
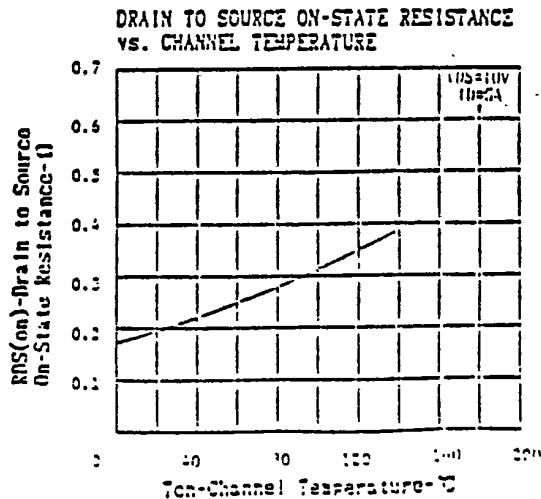
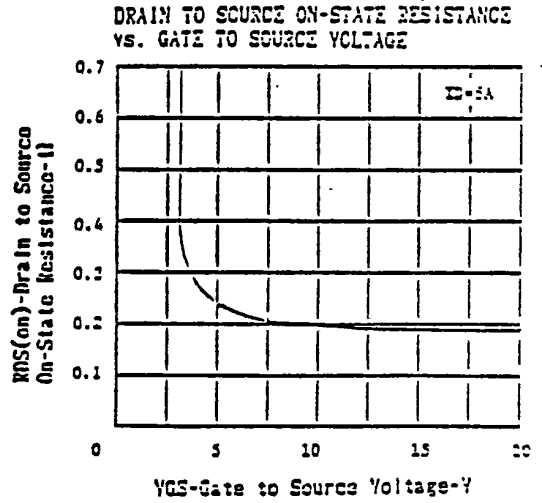
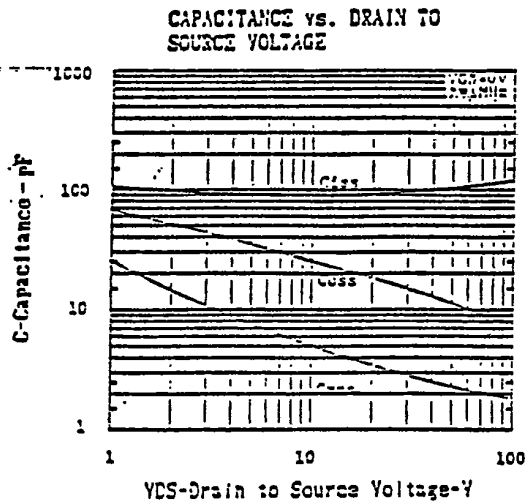
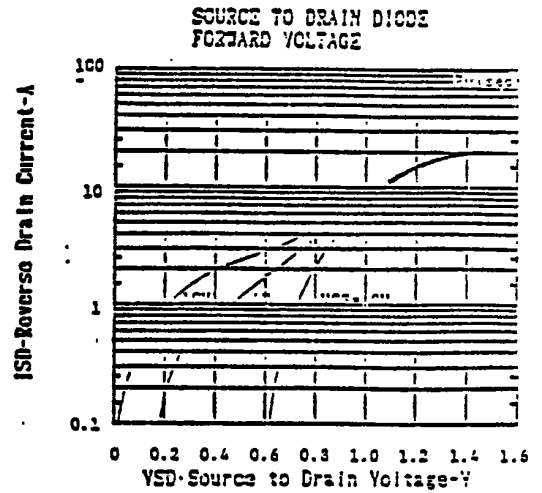
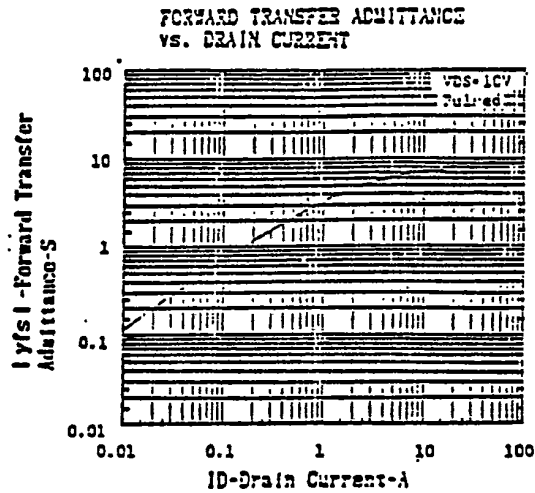
TOTAL POWER DISSIPATION vs. CASE TEMPERATURE



DRAIN CURRENT vs. DRAIN TO SOURCE VOLTAGE



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3

