



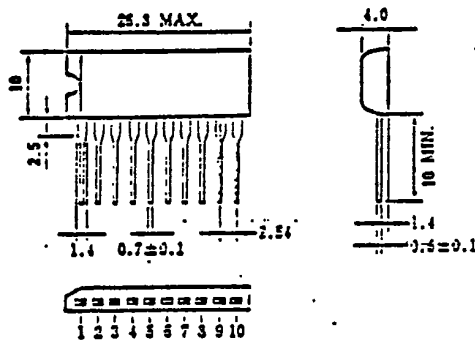
PRELIMINARY SPECIFICATION

MOS FIELD EFFECT POWER TRANSISTOR ARRAY

4PA1572

FAST SWITCHING
N-CHANNEL SILICON POWER MOS FET ARRAY

PACKAGE DIMENSIONS
in millimeters



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

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} 60V
- Gate to Source Voltage V_{GS} $\pm 20V$
- Continuous Drain Current $I_D(DC)$ 2A
- Total Power Dissipation P_T 3.5W
- Total Power Dissipation $P_{T\#}$ 22W
- Channel Temperature T_{ch} 150°C
- Storage Temperature T_{stg} -55~150°C
 $+T_c=25^\circ C$

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

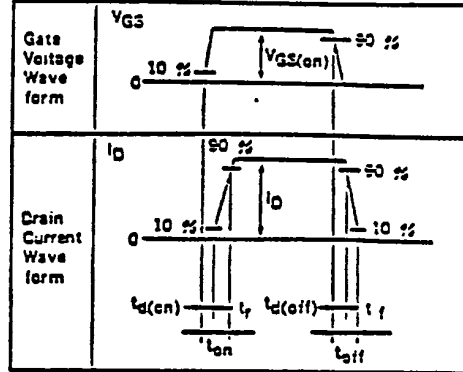
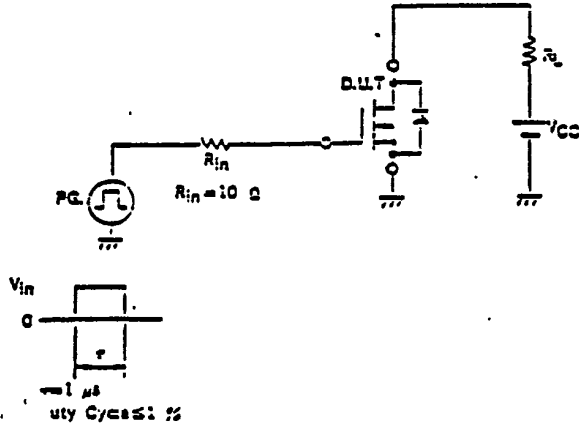
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Drain Leakage Current	I_{DSS}			10	μA	$V_{DS}=60V, V_{GS}=0$
Gate to Source Leakage Current	I_{GSS}			± 100	nA	$V_{GS}=\pm 20V, V_{DS}=0$
Gate to Source Cutoff Voltage	$V_{GS(off)}$	1.0		2.5	V	$V_{DS}=10V, I_D=1mA$
Forward Transfer Admittance	$ y_{fs} $	0.5			S	$V_{DS}=10V, I_D=1A$
Drain to Source On-State Resistance	$R_{DS(on)}$		0.40	0.60	Ω	$V_{GS}=10V, I_D=1A$
			0.60	0.35	Ω	$V_{GS}=4V, I_D=1A$
Input Capacitance	C_{iss}		200		pF	$V_{DS}=10V$
Output Capacitance	C_{oss}		70		pF	$V_{GS}=0$
Reverse Transfer Capacitance	C_{rss}		15		pF	$f=1MHz$
Turn-On Delay Time	$t_d(on)$		45		ns	$I_D=1A, V_{cc}=50V$
Rise Time	t_r		40		ns	$V_{GS(on)}=10V$
Turn-Off Delay Time	$t_d(off)$		450		ns	$R_L=50 \Omega$
Fall Time	t_f		110		ns	

Mar.28.1988 ID-1730

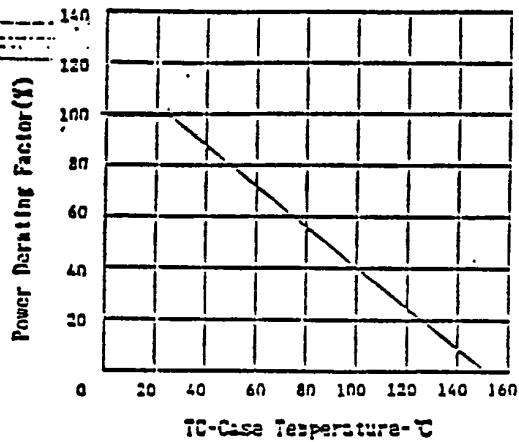
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NEC

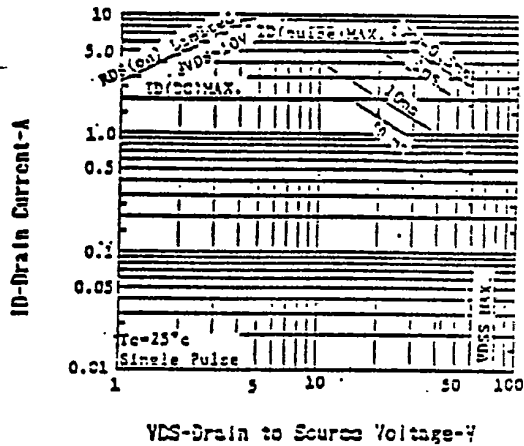
TURN-ON AND TURN-OFF TIME TEST CIRCUIT



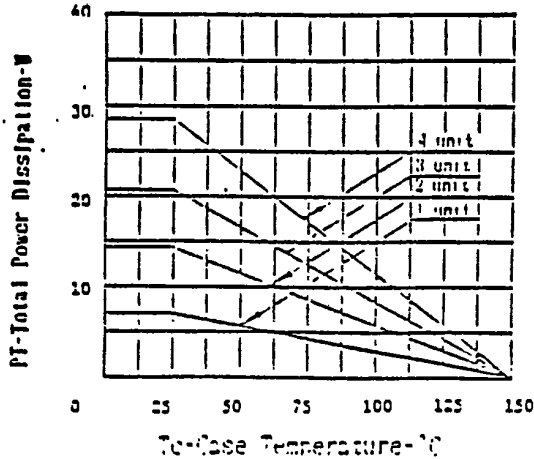
DERATING FACTOR OF FORWARD BIAS SAFE OPERATING AREA



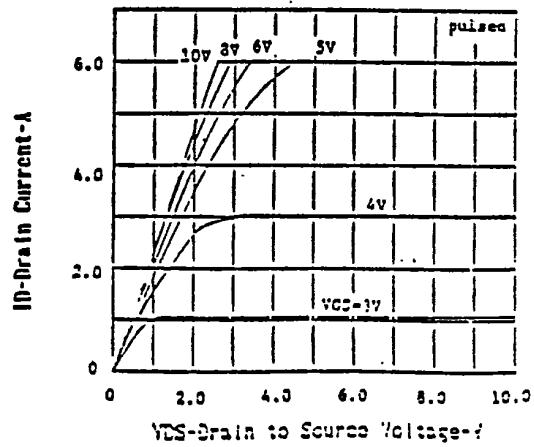
FORWARD BIAS SAFE OPERATING AREA



TOTAL POWER DISSIPATION vs. CASE TEMPERATURE

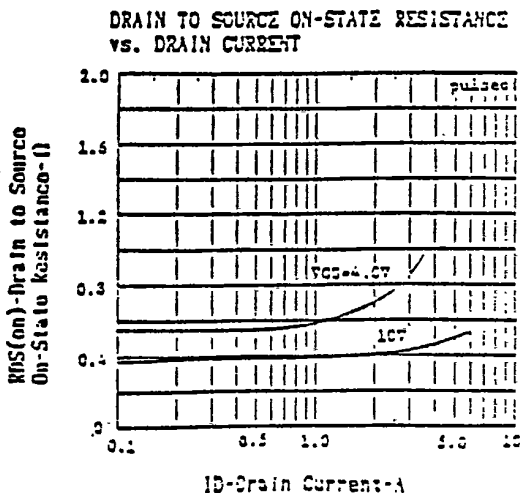
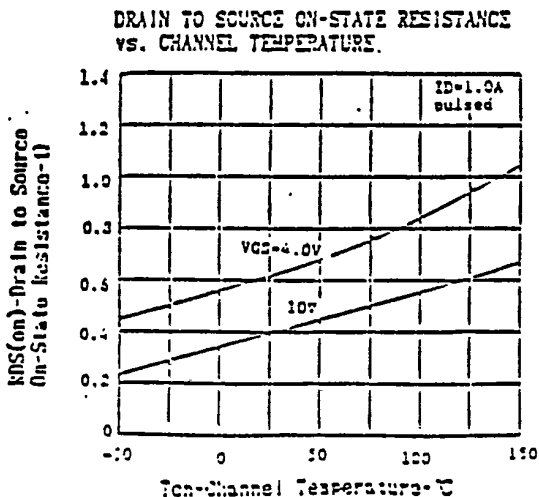
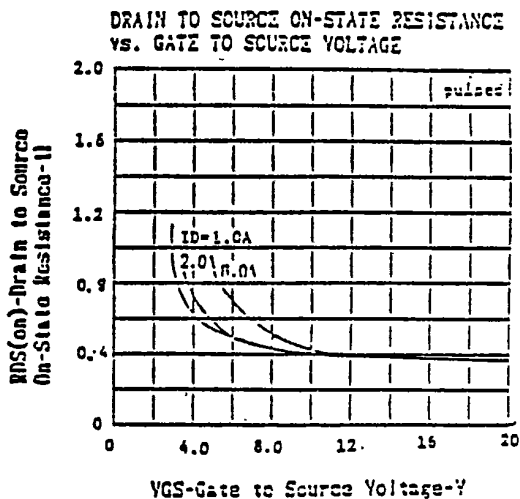
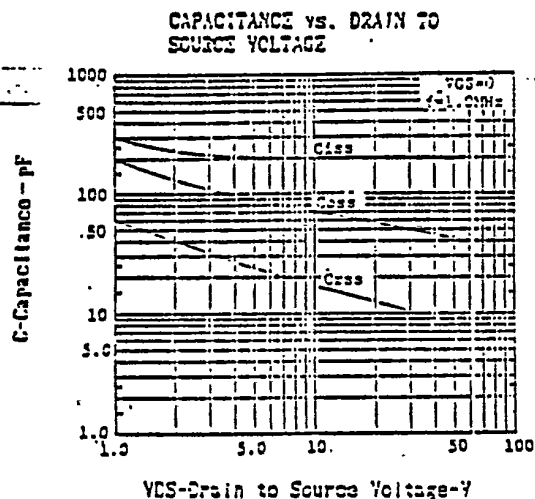
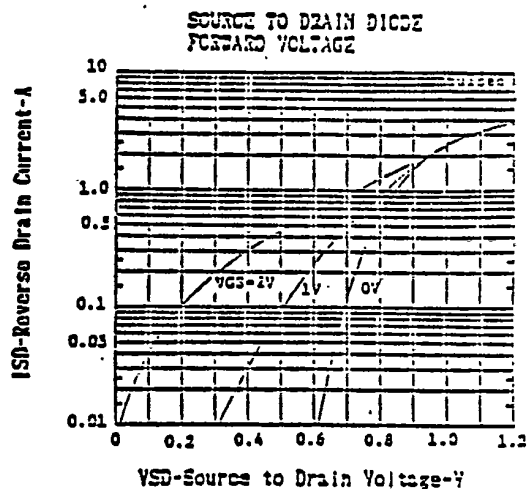
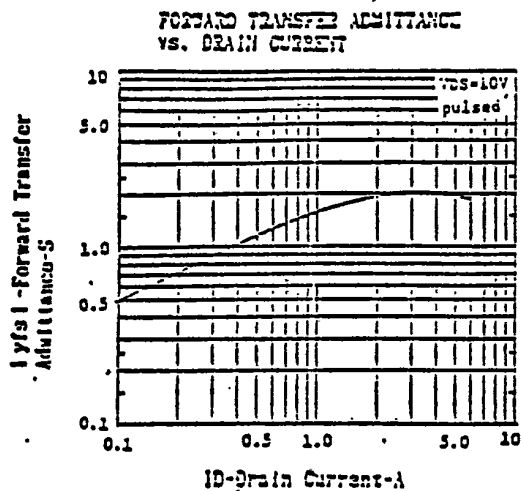


DRAIN CURRENT vs. DRAIN TO SOURCE VOLTAGE





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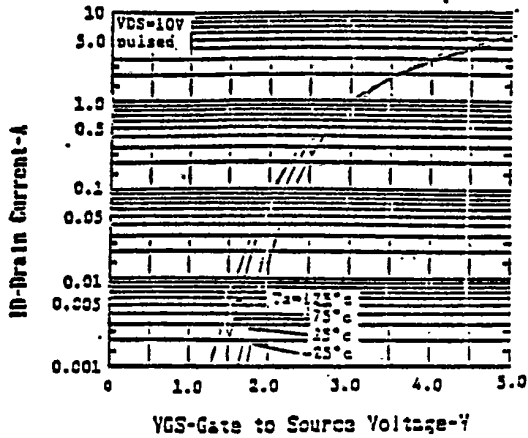


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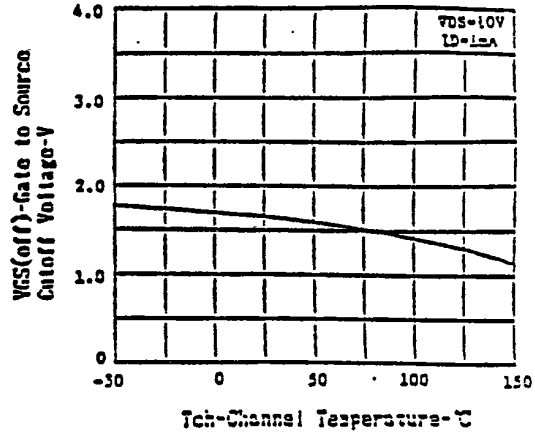
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NEC ELECTRONIC DEVICE

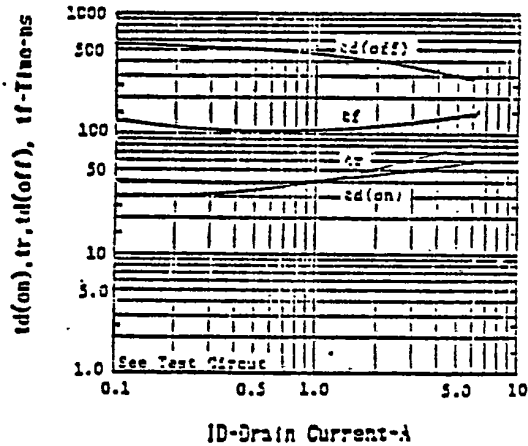
TRANSFER CHARACTERISTICS



GATE TO SOURCE CUTOFF VOLTAGE VS. CHANNEL TEMPERATURE



TURN-ON AND TURN-OFF TIME



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