

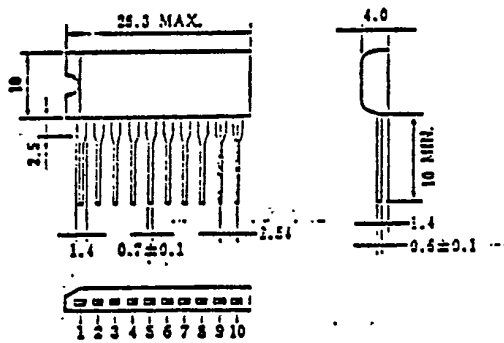


PRELIMINARY SPECIFICATION
MOS FIELD EFFECT POWER TRANSISTOR ARRAY

μPA1552H

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

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	$I_{D(DC)}$	5A
Total Power Dissipation	PT	3.5W
Total Power Dissipation	PT \pm	22W
Channel Temperature	T_{ch}	150°C
Storage Temperature	T_{stg}	-55~150 °C
		$\pm T_c=25^\circ C$

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} $	5			S	$V_{DS}=10V, I_D=2A$
Drain to Source On-State Resistance	$R_{DS(on)}$		0.11	0.30	Ω	$V_{GS}=10V, I_D=5A$
			0.17	0.25	Ω	$V_{GS}=4V, I_D=5A$
Input Capacitance	C_{iss}		900		pF	$V_{DS}=10V$
Output Capacitance	C_{oss}		350		pF	$V_{GS}=0$
Reverse Transfer Capacitance	C_{rss}		50		pF	$f=1MHz$
Turn-On Delay Time	$t_d(on)$		10		ns	$I_D=2A, V_{GS}=50V$
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		20		ns	$R_{in}=10 \Omega$

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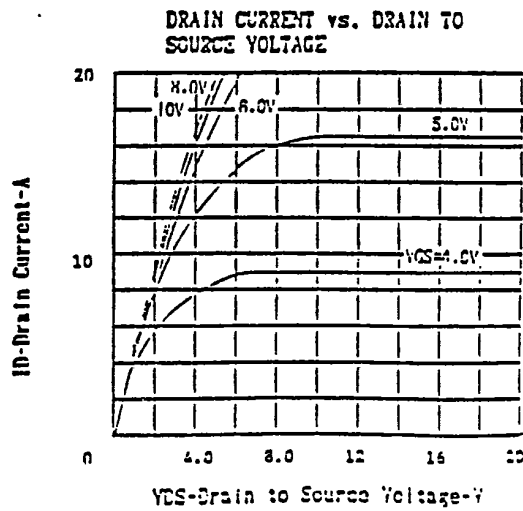
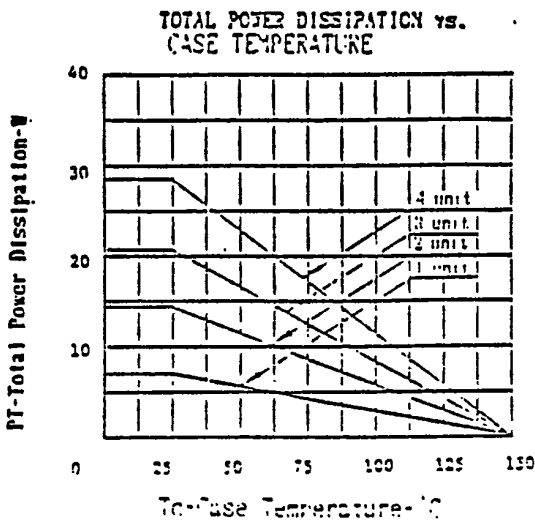
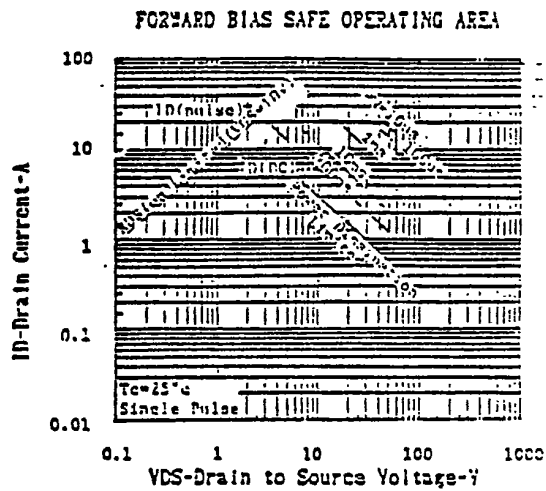
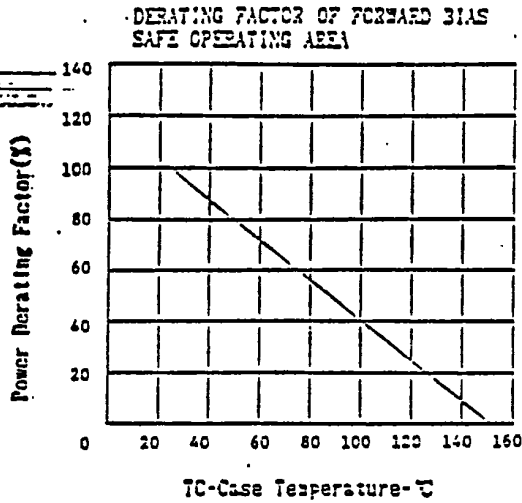
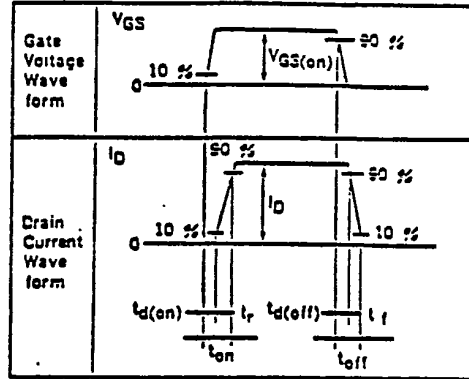
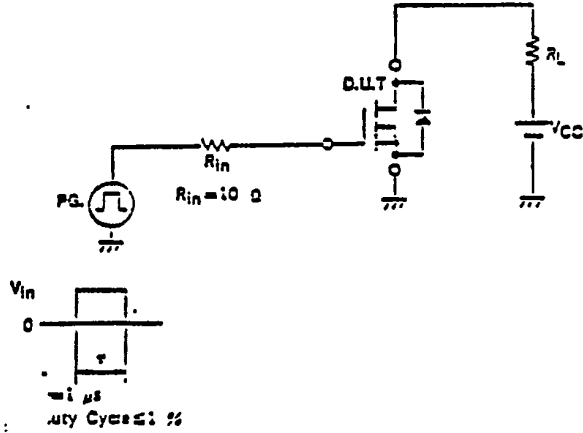
NEC cannot assume any responsibility for any circuits shown or represent that they are free from patent infringement.

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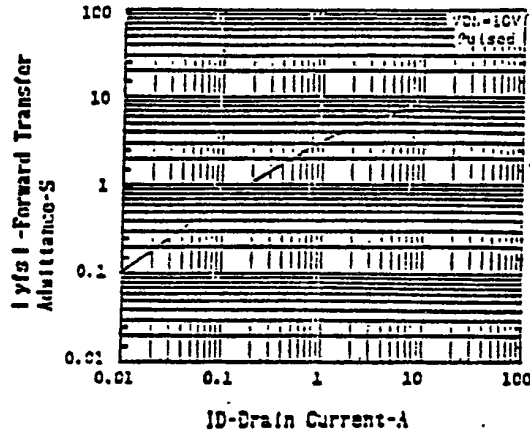
UPA1552H

NEC ELECTRON DEVICE

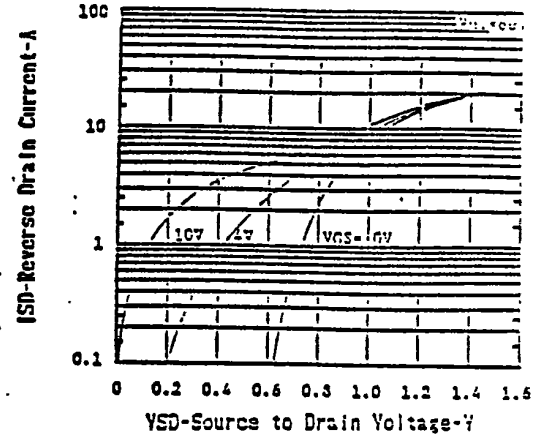
TURN-ON AND TURN-OFF TIME TEST CIRCUIT



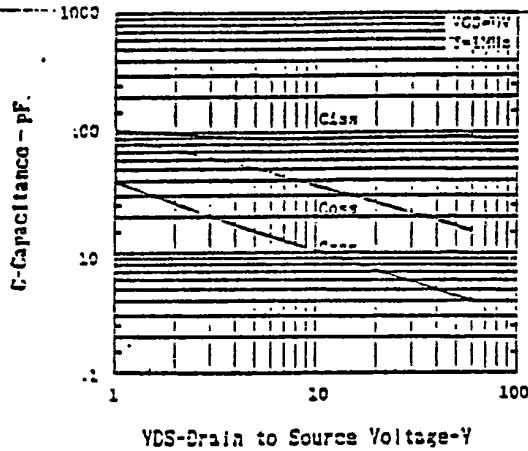
FORWARD TRANSFER ADMITTANCE vs. DRAIN CURRENT



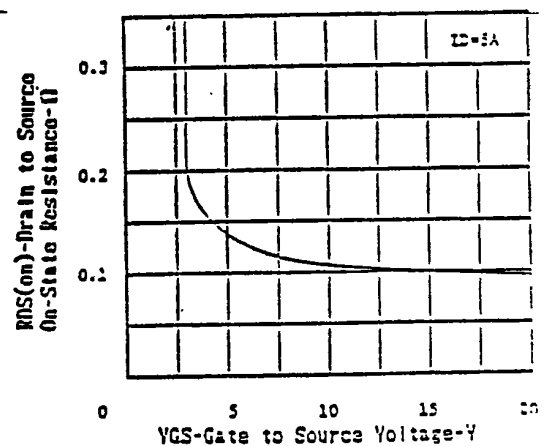
SOURCE TO DRAIN DIODE FORWARD VOLTAGE



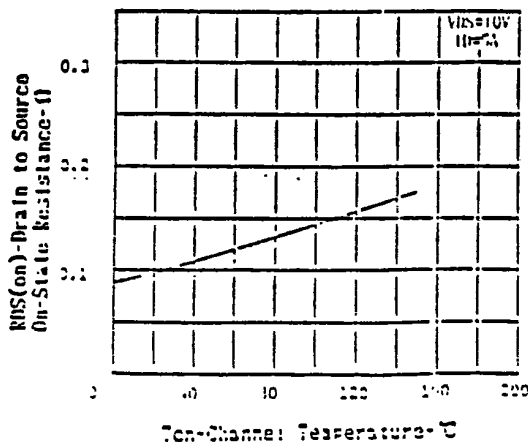
CAPACITANCE vs. DRAIN TO SOURCE VOLTAGE



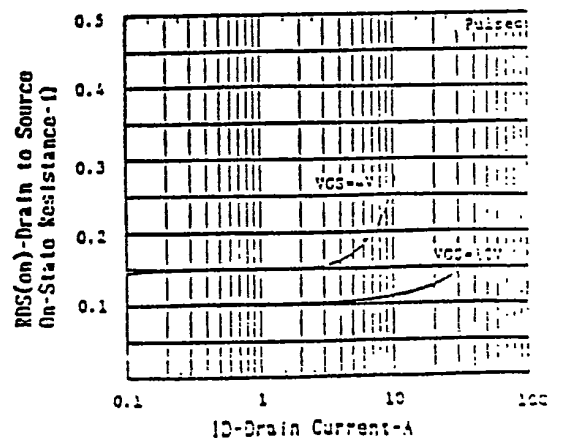
DRAIN TO SOURCE ON-STATE RESISTANCE vs. GATE TO SOURCE VOLTAGE



DRAIN TO SOURCE ON-STATE RESISTANCE vs. CHANNEL TEMPERATURE



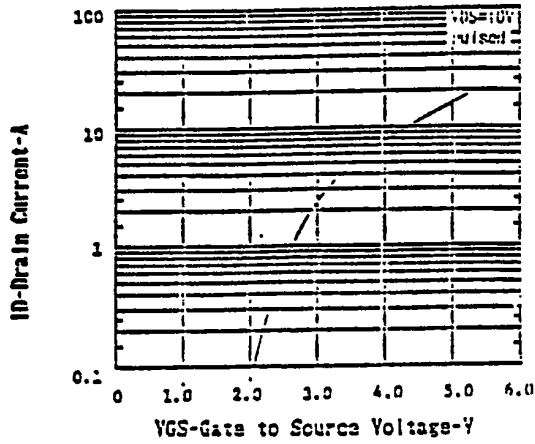
DRAIN TO SOURCE ON-STATE RESISTANCE vs. DRAIN CURRENT



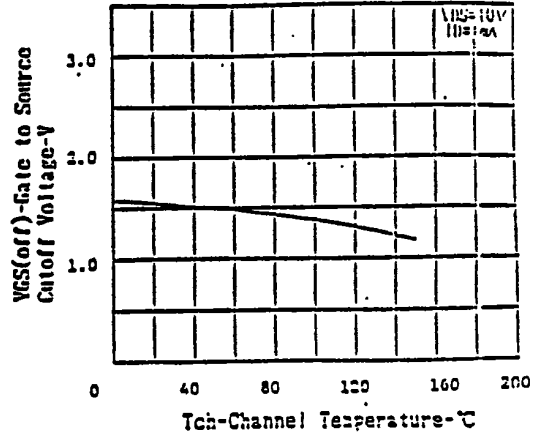
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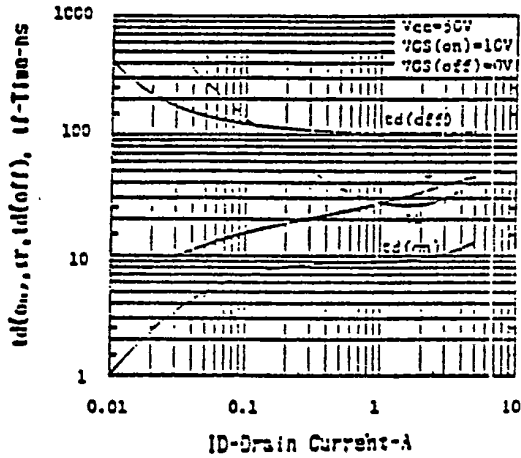
TRANSFER CHARACTERISTICS



GATE TO SOURCE CUTOFF VOLTAGE vs. CHANNEL TEMPERATURE



TURN-ON AND TURN-OFF TIME



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