

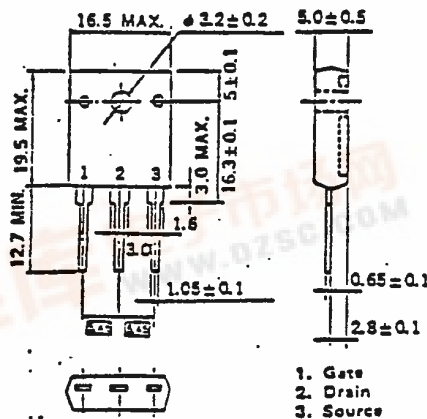
NEC
ELECTRON DEVICE

MOS FIELD EFFECT TRANSISTOR

2SK720A

FAST SWITCHING
N-CHANNEL SILICON POWER MOS FET

PACKAGE DIMENSIONS
(Unit: mm)



Features

- Suitable for switching power supplies, DC-DC converters and pulse circuits
- High speed switching
- Low RDS(on)
- No second breakdown

Absolute Maximum Ratings (Ta=25°C)

Drain to Source Voltage	VDS	250V
Gate to Source Voltage	VGS	± 20V
Continuous Drain Current	ID(DC)	± 20A
Pulse Drain Current	ID(pulse)	± 80A
Total Power Dissipation	PT	3.0W
Total Power Dissipation	PT**	120W
Channel Temperature	Tch	150 °C
Storage Temperature	Tstg	-55to+150 °C

* PW ≤ 100 μs, Duty Cycles ≤ 2 %
** Tc = 25 °C

Electrical Characteristics (Ta=25 °C)

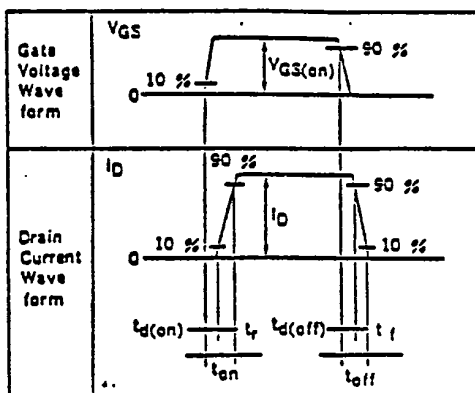
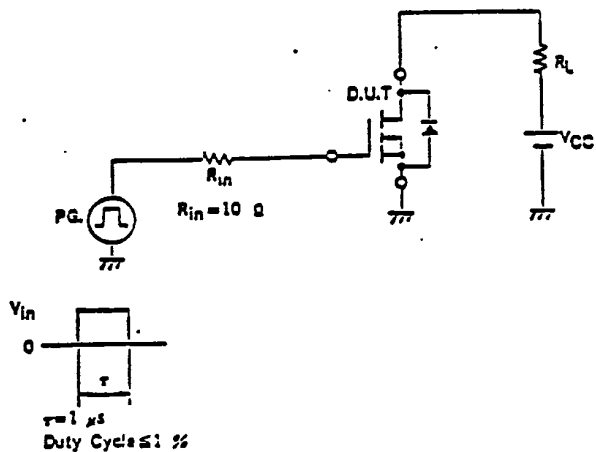
Characteristics	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain Leakage Current	IDSS			100	μA	VDS=250V, VGS=0
Gate to Source Leakage Current	IGSS			±100	nA	VGS=±20V, VDS=0
Gate to Source Cutoff Voltage	VGS(off)	1.5		3.5	V	VDS=10V, ID=1.0mA
Forward Transfer Admittance	yfs	5.0			S	VDS=10V, ID= 10A
Drain to Source On-State Resistance	RDS(on)		0.18	0.23	Ω	VGS=10V, ID= 10A
Input Capacitance	Ciss		1800		pF	VDS= 10V,
Output Capacitance	Coss		620		pF	VGS=0,
Reverse Transfer Capacitance	Crss		320		pF	f=1.0MHz
Turn-On Delay Time	td(on)		30		ns	ID= 10A.
Rise Time	tr		45		ns	VGS(on)= 10V,
Turn-Off Delay Time	td(off)		120		ns	Vcc=150V,
Fall Time	tf		40		ns	RL= 15 Ω



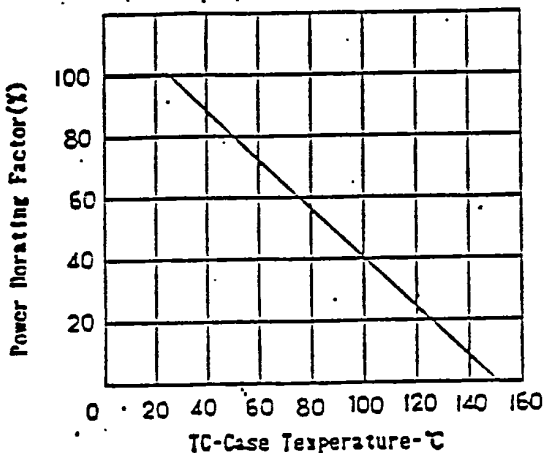
2SK720A

NEC ELECTRON DEVICE

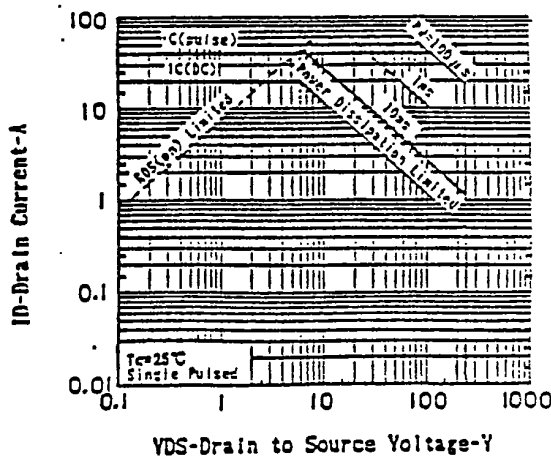
TURN-ON AND TURN-OFF TIME TEST CIRCUIT



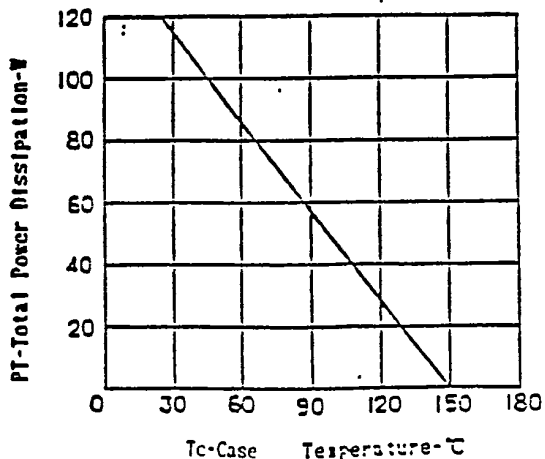
DERATING FACTOR OF FORWARD BIAS SAFE OPERATING AREA



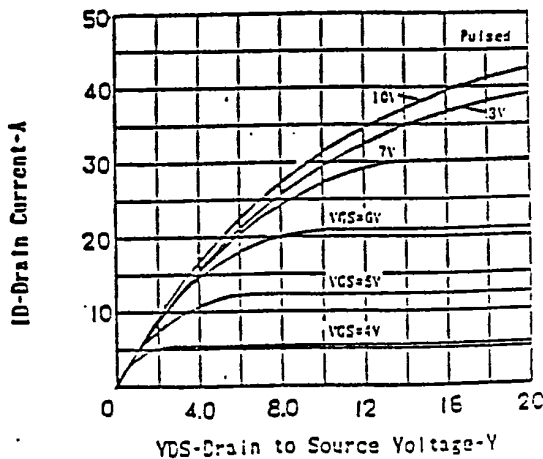
FORWARD BIAS SAFE OPERATING AREA



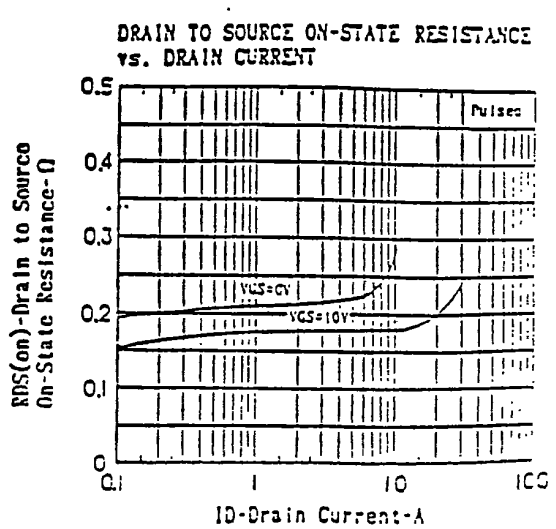
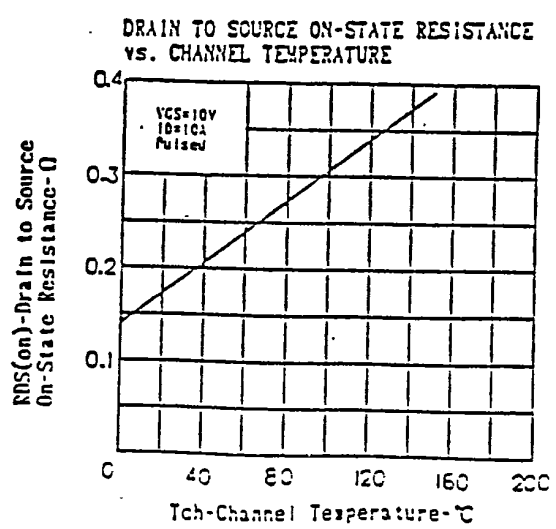
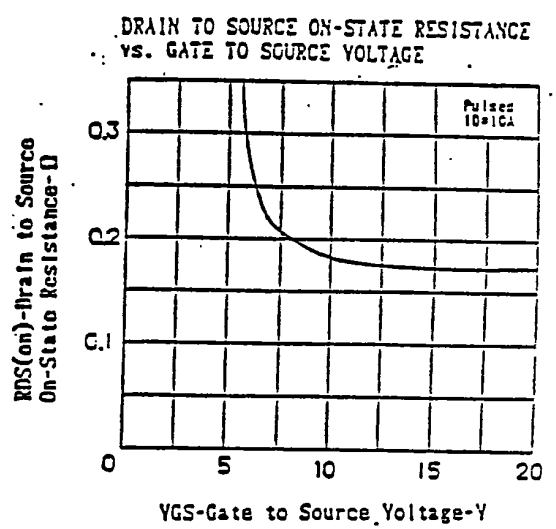
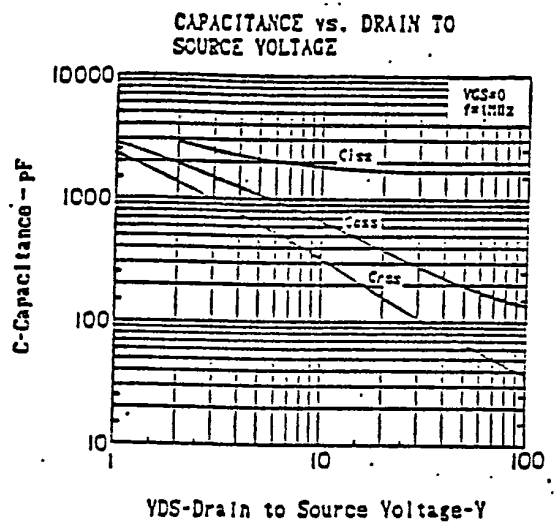
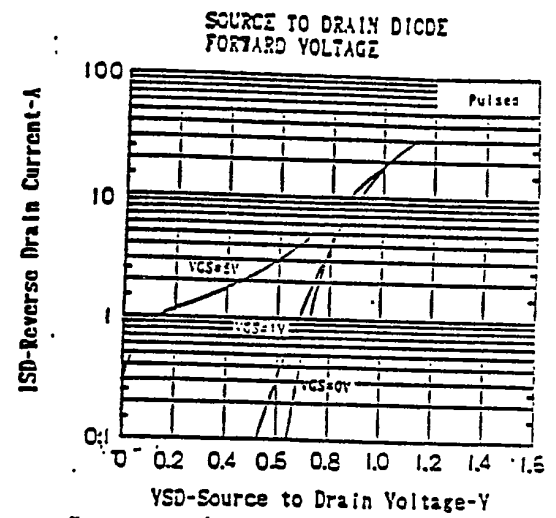
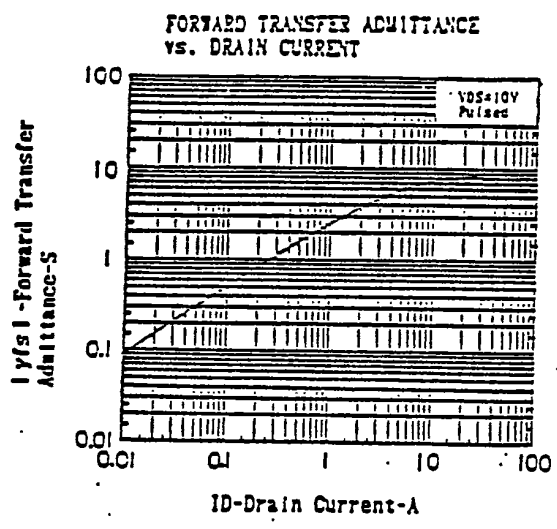
TOTAL POWER DISSIPATION vs. CASE TEMPERATURE



DRAIN CURRENT vs. DRAIN TO SOURCE VOLTAGE

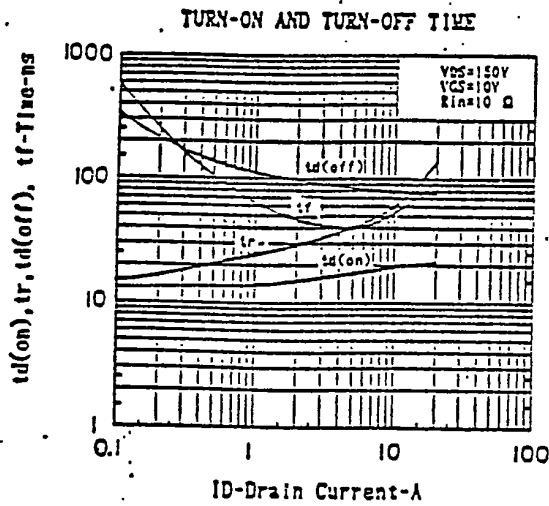
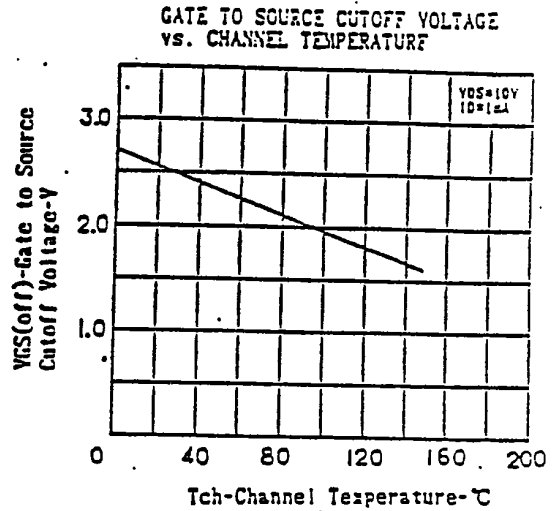
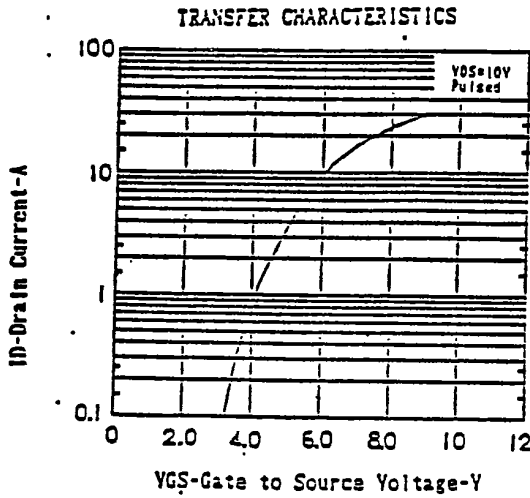


NEC ELECTRON DEVICE 2SK720A



2SK720A

NEC ELECTRON DEVICE



NEC Corporation

INTERNATIONAL ELECTRON DEVICES DIV.
 NEC Building, 33-1, Shiba Gochome
 Minato-ku, Tokyo 108, Japan
 Tel: Tokyo 454-1111
 Telex Address: NECTCX J22686
 Cable Address: MICROPHONE TOKYO