

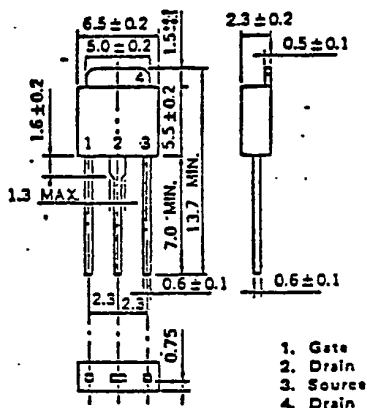


MOS FIELD EFFECT TRANSISTOR

**2SK654**

FAST SWITCHING  
N-CHANNEL SILICON POWER MOS FET

PACKAGE DIMENSIONS (Unit: mm)



Features

- Suitable for switching power supplies, actuator controls and pulse circuits
- 4V Gate Drive — Logic Level —
- Low RDS(on)

Absolute Maximum Ratings(Ta=25°C)

Drain to Source Voltage	VDSS	100V
Gate to Source Voltage	VGSS	± 15V
Continuous Drain Current	ID(DC)	±1.0A
Pulse Drain Current	ID(pulse) *	±3.0A
Total Power Dissipation	PT	1.0W
Total Power Dissipation	PT**	10W
Channel Temperature	Tch	150 °C
Storage Temperature	Tstg	-55to+150 °C

\* PV ≤ 10 ms, Duty Cycle ≤ 50 %  
\*\* Tc=25 °C

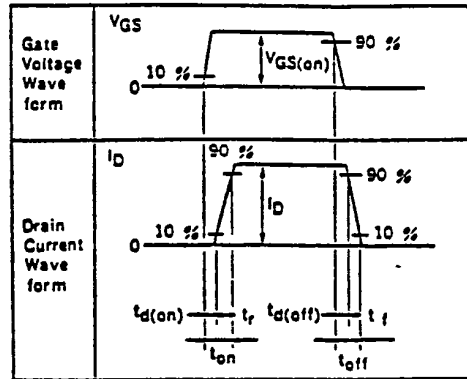
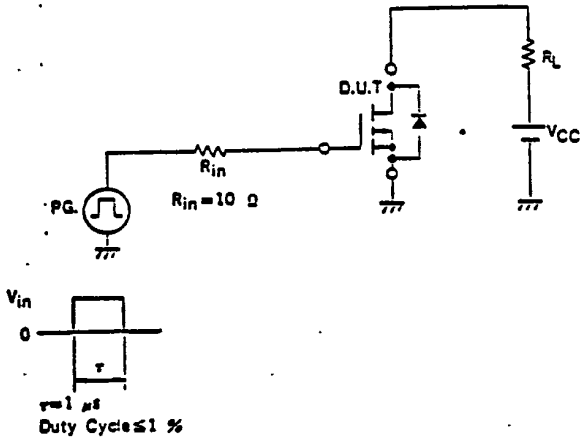
Electrical Characteristics (Ta=25 °C)

Characteristics	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain Leakage Current	IDSS			10	μA	VDS=80 V, VGS=0
Gate to Source Leakage Current	IGSS			100	nA	VGS= 15V, VDS=0
Gate to Source Cutoff Voltage	VGS(off)	1.0		3.0	V	VDS=10V, ID=1.0mA
Forward Transfer Admittance	yfs	0.5			S	VDS=10V, ID=0.5A
Drain to Source On-State Resistance	RDS(on)		1.2	3.0	Ω	VGS=10V, ID=0.5A
Drain to Source On-State Resistance	RDS(on)		1.7	4.0	Ω	VGS=4.0V ID=0.2A
Input Capacitance	Ciss		120		pF	VDS= 10V, VGS=0,
Output Capacitance	Coss		70		pF	f=1.0MHz
Reverse Transfer Capacitance	Crss		24		pF	ID=0.5A
Turn-On Delay Time	td(on)		2		ns	VGS(on)= 10V,
Rise Time	tr		10		ns	Vcc=50 V,
Turn-Off Delay Time	td(off)		10		ns	RL=100 Ω
Fall Time	tf		5		ns	

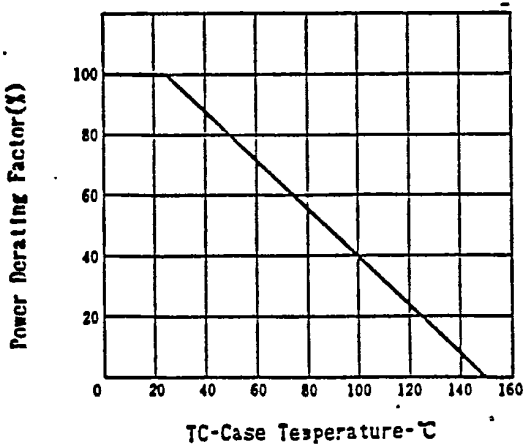
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NEC ELECTRON DEVICE

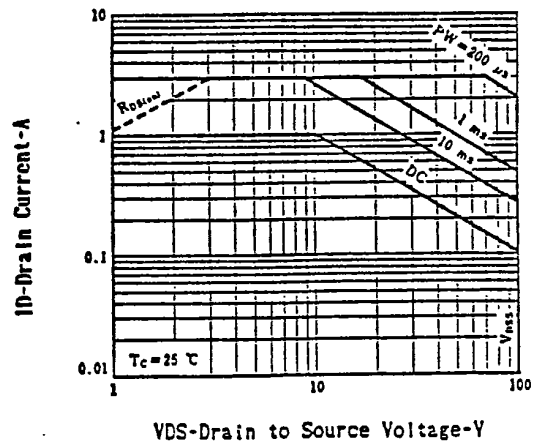
TURN-ON AND TURN-OFF TIME TEST CIRCUIT



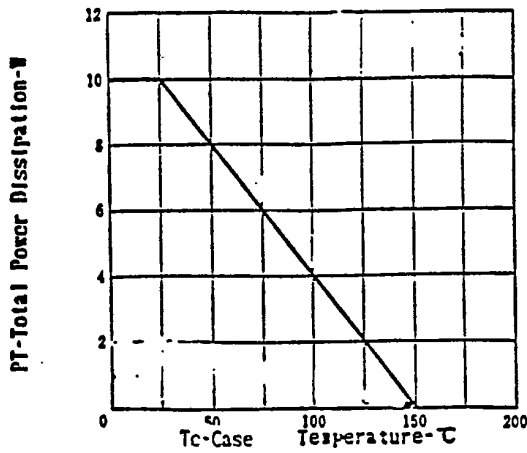
DERATING FACTOR OF FORWARD BIAS SAFE OPERATING AREA



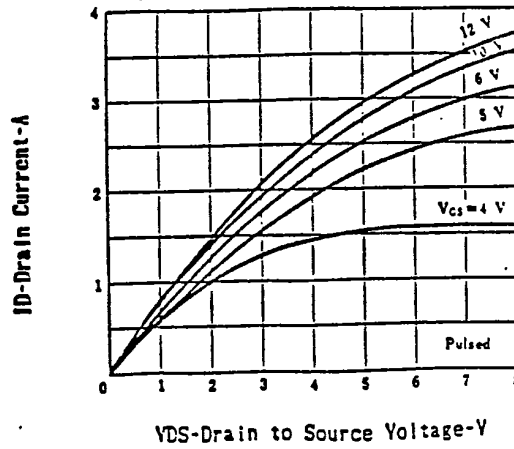
FORWARD BIAS SAFE OPERATING AREA

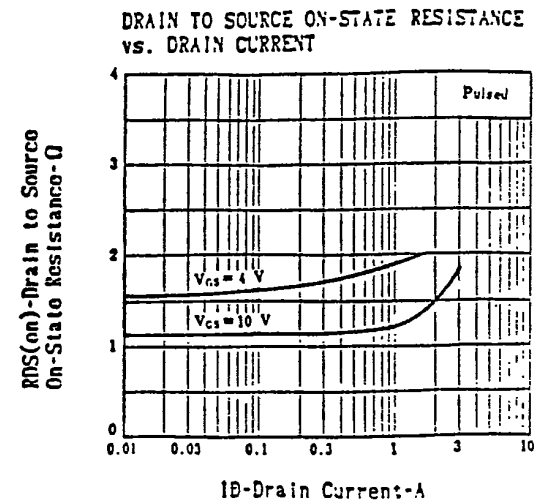
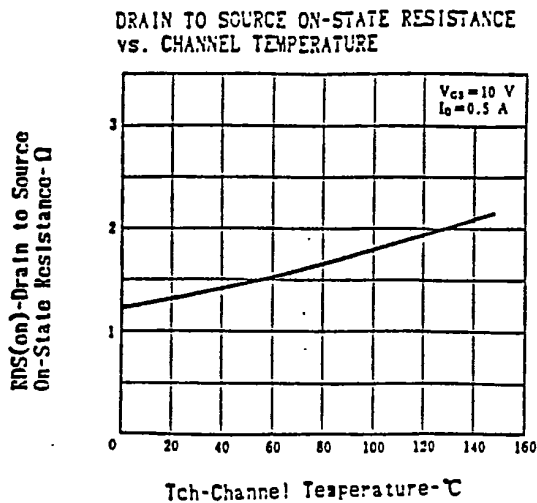
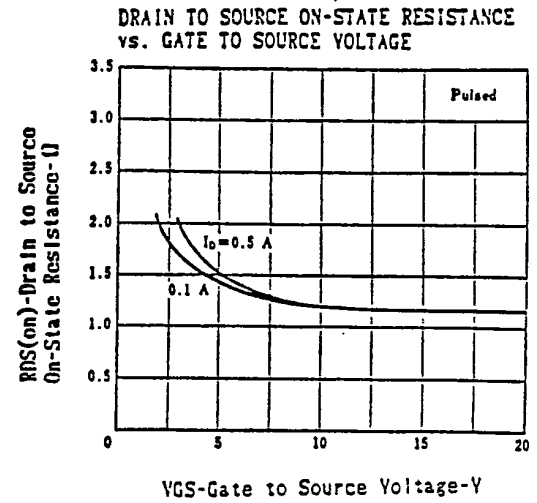
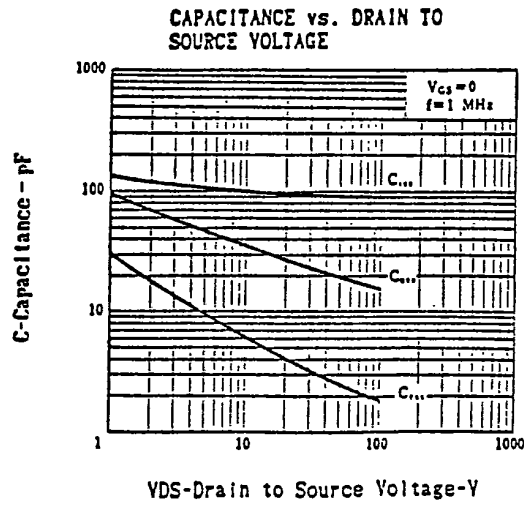
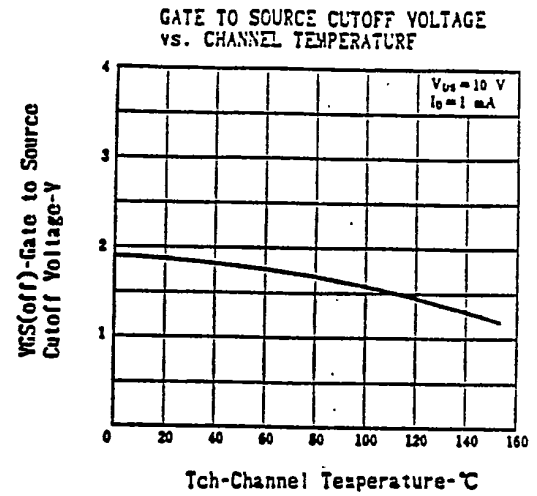
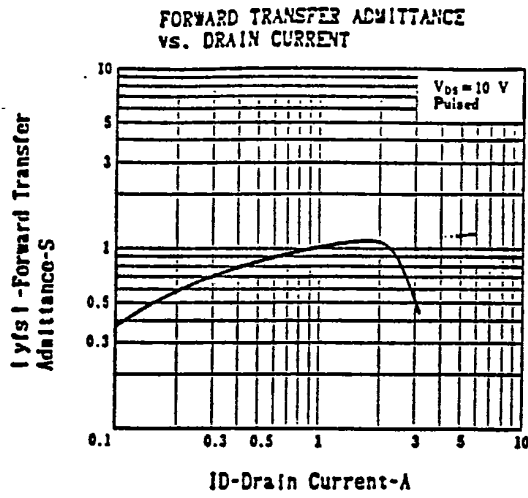


TOTAL POWER DISSIPATION vs. CASE TEMPERATURE



DRAIN CURRENT vs. DRAIN TO SOURCE VOLTAGE





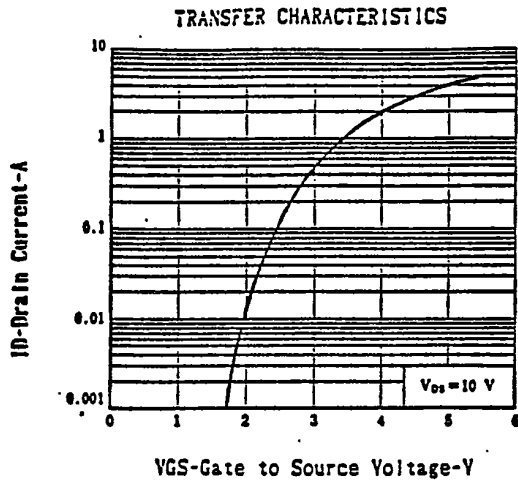
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NEC ELECTRON DEVICE

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