



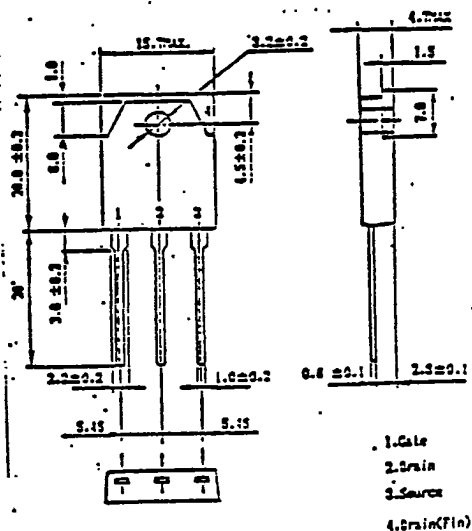
PRELIMINARY SPECIFICATION

MOS FIELD EFFECT TRANSISTOR

2SK819

**FAST SWITCHING
N-CHANNEL SILICON POWER MOS FET**

PACKAGE DIMENSIONS (Millim)



Features

Suitable for switching power supplies,
actuator controls and pulse circuits
Low RDS(on)

Absolute Maximum Ratings(Ta=25°C)

Drain to Source Voltage	VDS	500V
Gate to Source Voltage	VGS	± 20V
Continuous Drain Current	ID(DC)	± 10A
Pulse Drain Current	ID(pulse)	* ± 30A
Total Power Dissipation	PT	3.0W
Total Power Dissipation	PT#	100W
Channel Temperature	Tch	150 °C
Storage Temperature	Tstg	-55to+150 °C

* PW ≤ 100 us, Duty Cycle ≤ 2%
** Tc=25 °C

Electrical Characteristics (Ta=25 °C)

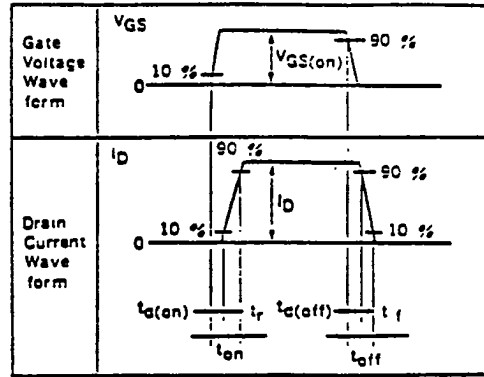
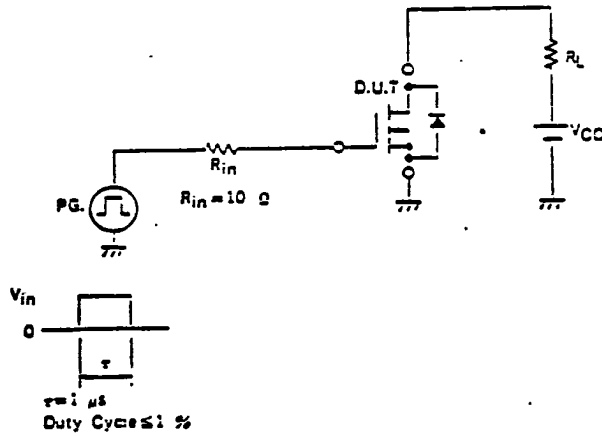
Characteristics	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain Leakage Current	IDSS			100	μA	VDS=500V, VGS=0
Gate to Source Leakage Current	IGSS			±100	nA	VGS=±20V, VDS=0
Gate to Source Cutoff Voltage	VGS(off)	1.5		3.5	V	VDS=10V, ID=1.0mA
Forward Transfer Admittance	yfs	3.0			S	VDS=10V, ID=5.0A
Drain to Source On-State Resistance	RDS(on)		0.70	1.0	Ω	VGS=10V, ID=5.0A
Input Capacitance	Ciss		1270		pF	VDS= 10V, VGS=0.
Output Capacitance	Coss		320		pF	
Reverse Transfer Capacitance	Crss		70		pF	f=1.0MHz
Turn-On Delay Time	td(on)		15		ns	ID=5.0A,
Rise Time	tr		20		ns	VGS(on)= 10V,
Turn-Off Delay Time	td(off)		60		ns	Vcc=150V,
Fall Time	tf		30		ns	RL= 30 Ω

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

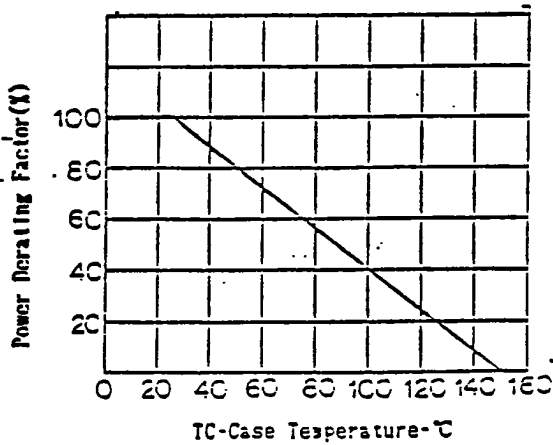
NEC Corporation

6427525 N E C ELECTRONICS INC
TURN-ON AND TURN-OFF TIME TEST CIRCUIT

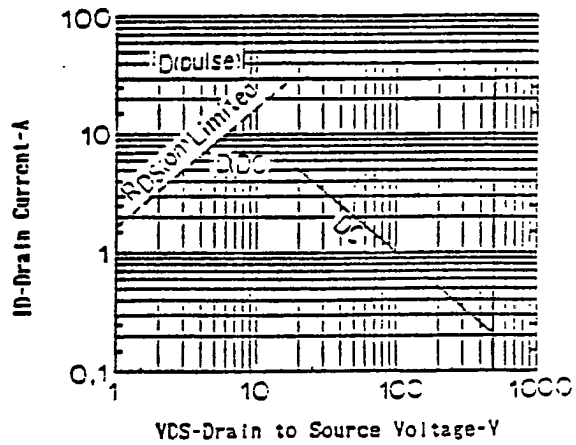
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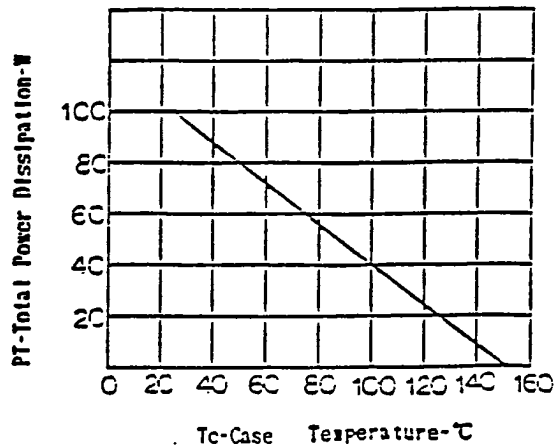
DERATING FACTOR OF FORWARD BIAS SAFE OPERATING AREA



FORWARD BIAS SAFE OPERATING AREA



TOTAL POWER DISSIPATION vs. CASE TEMPERATURE



DRAIN CURRENT vs. DRAIN TO SOURCE VOLTAGE

