



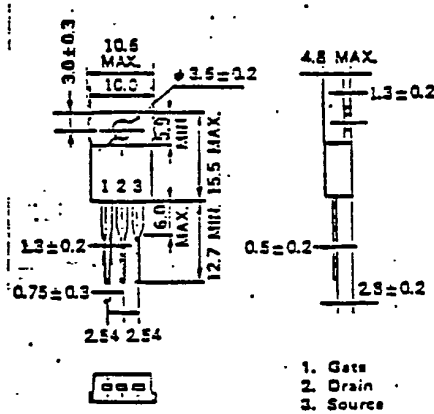
PRELIMINARY SPECIFICATION

MOS FIELD EFFECT TRANSISTOR

**2SK854**

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

PACKAGE DIMENSIONS  
(Unit: mm)



Features

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

Absolute Maximum Ratings (Ta=25°C)

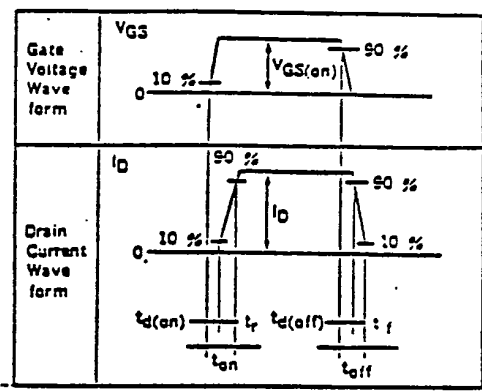
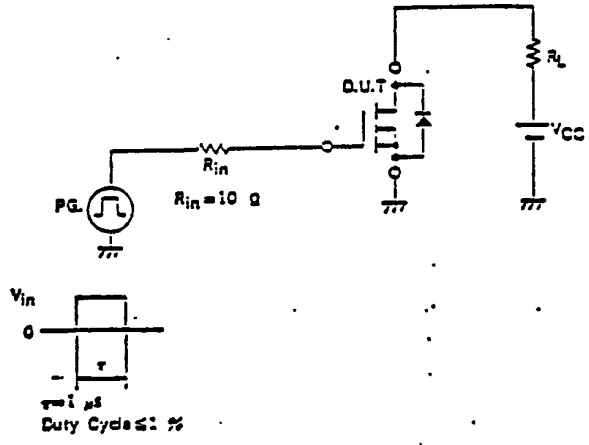
Drain to Source Voltage	VDS	450V
Gate to Source Voltage	VGS	± 20V
Continuous Drain Current	ID(DC)	± 5A
Pulse Drain Current	ID(pulse)	* ± 20A
Total Power Dissipation	PT	1.5W
Total Power Dissipation	PT**	50W
Channel Temperature	Tch	150 °C
Storage Temperature	Tstg	-55to+150 °C

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

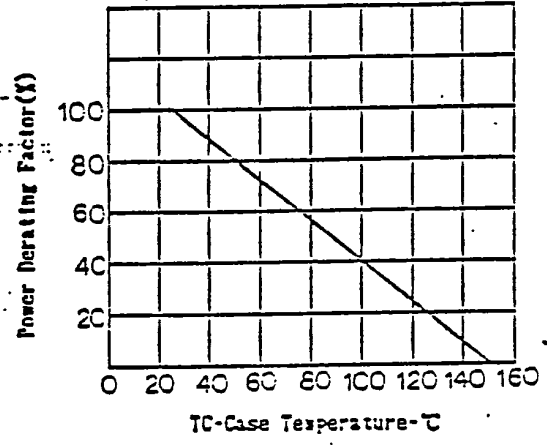
Electrical Characteristics (Ta=25 °C)

Characteristics	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain Leakage Current	IDSS			100	μA	VDS=450V, 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	2.5			S	VDS=10V, ID=2.5A
Drain to Source On-State Resistance	RDS(on)			1.4	Ω	VGS=10V, ID=2.5A
Input Capacitance	Ciss		700		pF	VDS=10V, VGS=0,
Output Capacitance	Coss		175		pF	VGS=0,
Reverse Transfer Capacitance	Crss		40		pF	f=1.0MHz
Turn-On Delay Time	td(on)		10		ns	ID=2.5A,
Rise Time	tr		15		ns	VGS(on)=10V,
Turn-Off Delay Time	td(off)		40		ns	Vcc=150V,
Fall Time	tf		15		ns	RL= 60 Ω

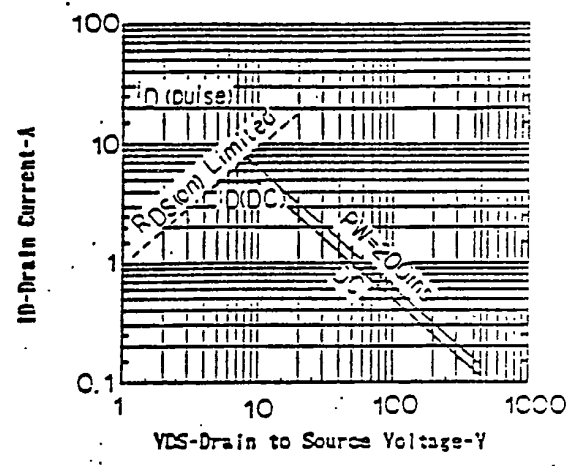
TURN-ON AND TURN-OFF TIME TEST CIRCUIT



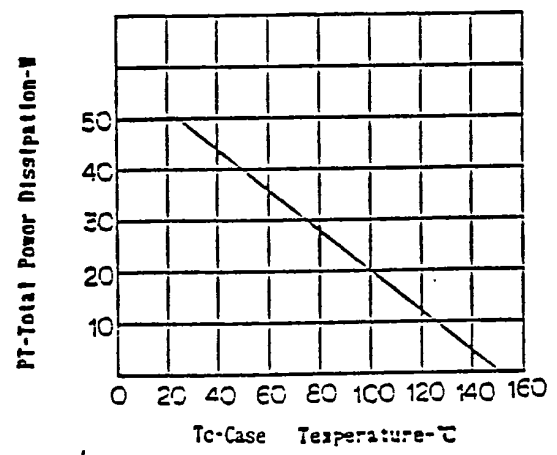
DERATING FACTOR OF FORWARD BIAS SAFE OPERATING AREA



FORWARD BIAS SAFE OPERATING AREA



TOTAL POWER DISSIPATION vs. CASE TEMPERATURE



DRAIN CURRENT vs. DRAIN TO SOURCE VOLTAGE

