

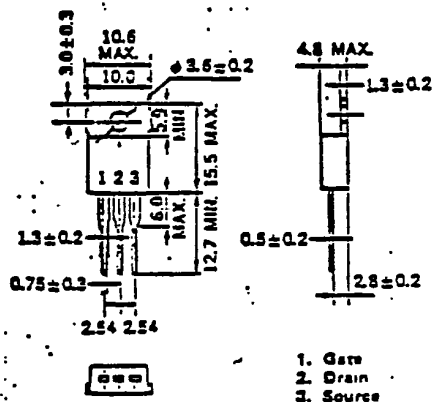
PRELIMINARY SPECIFICATION

NEC
 ELECTRON DEVICE

MOS FIELD EFFECT TRANSISTOR

2SK855

FAST SWITCHING N-CHANNEL SILICON POWER MOS FET

 PACKAGE DIMENSIONS
 (Unit: mm)

Features

Suitable for switching power supplies,
 actuator controls and pulse circuits
 Low $R_{DS(on)}$

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

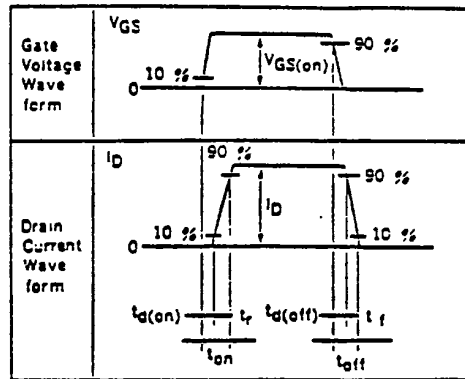
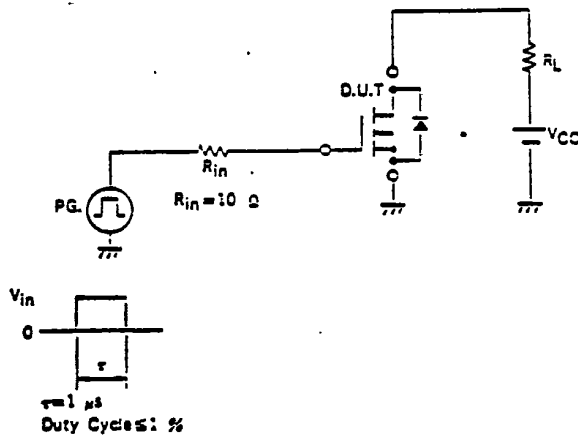
Drain to Source Voltage	V_{DS}	500V
Gate to Source Voltage	V_{GS}	$\pm 20\text{V}$
Continuous Drain Current	$I_D(DC)$	$\pm 5\text{A}$
Pulse Drain Current	$I_D(\text{pulse})$	$\pm 20\text{A}$
Total Power Dissipation	PT	1.5W
Total Power Dissipation	PT#	50W
Channel Temperature	T_{ch}	150 $^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150 $^\circ\text{C}$

* $PW \leq 100 \mu\text{s}$, Duty Cycle $\leq 2\%$
 # $T_c=25^\circ\text{C}$

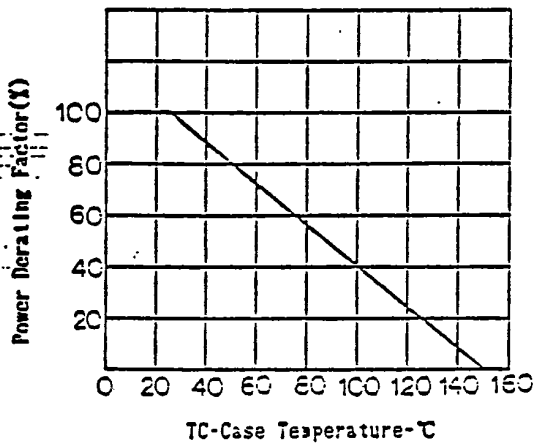
Electrical Characteristics ($T_a=25^\circ\text{C}$)

Characteristics	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain Leakage Current	I_{DSS}			100	μA	$V_{DS}=500\text{V}, V_{GS}=0$
Gate to Source Leakage Current	I_{GSS}			± 100	nA	$V_{GS}=\pm 20\text{V}, V_{DS}=0$
Gate to Source Cutoff Voltage	$V_{GS(off)}$	1.5		3.5	V	$V_{DS}=10\text{V}, I_D=1.0\text{mA}$
Forward Transfer Admittance	yfs	2.5			S	$V_{DS}=10\text{V}, I_D=2.5\text{A}$
Drain to Source On-State Resistance	$R_{DS(on)}$			1.5	Ω	$V_{GS}=10\text{V}, I_D=2.5\text{A}$
Resistance						
Input Capacitance	C_{iss}		700		pF	$V_{DS}=10\text{V},$
Output Capacitance	C_{oss}		175		pF	$V_{GS}=0,$
Reverse Transfer Capacitance	C_{rss}		40		pF	$f=1.0\text{MHz}$
Turn-On Delay Time	$t_d(on)$		10		ns	$I_D=2.5\text{A}.$
Rise Time	t_r		15		ns	$V_{GS(on)}=10\text{V},$
Turn-Off Delay Time	$t_d(off)$		40		ns	$V_{CC}=150\text{V}.$
Fall Time	t_f		15		ns	$RL=60\Omega$

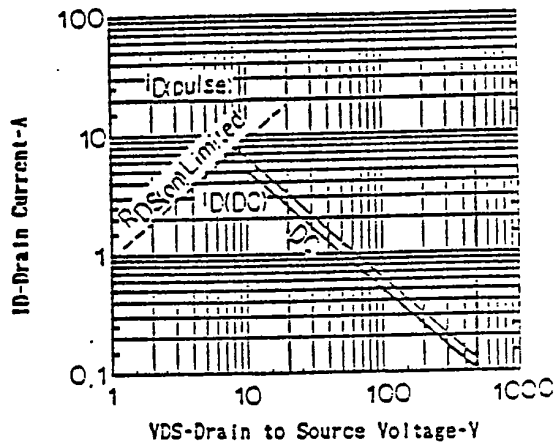
TURN-ON AND TURN-OFF TIME TEST CIRCUIT



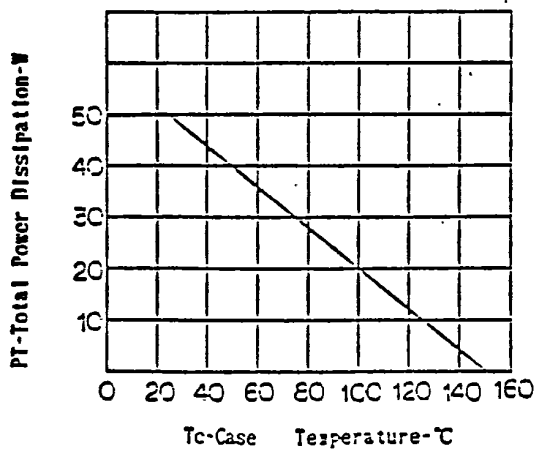
DERATING FACTOR OF FORWARD BIAS SAFE OPERATING AREA



FORWARD BIAS SAFE OPERATING AREA



TOTAL POWER DISSIPATION vs. CASE TEMPERATURE



DRAIN CURRENT vs. DRAIN TO SOURCE VOLTAGE

