

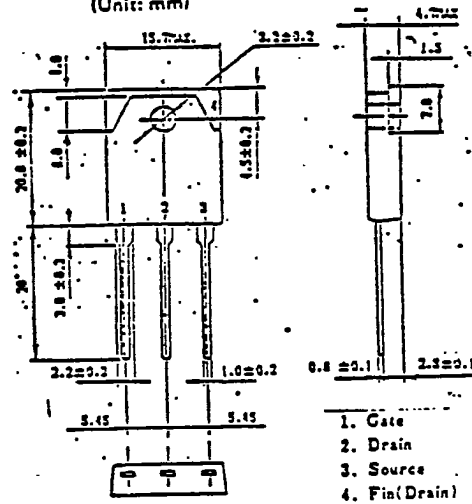


MOS FIELD EFFECT TRANSISTOR

2SK827

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	V _{DSS}	450V
Gate to Source Voltage	V _{GSS}	± 20V
Continuous Drain Current	I _{D(DC)}	± 18A
Pulse Drain Current	I _{D(pulse)}	* ± 60A
Total Power Dissipation	P _T	3.0W
Total Power Dissipation	P _{T**}	12W
Channel Temperature	T _{ch}	150 °C
Storage Temperature	T _{stg}	-55 to +150 °C

* PW ≤ 300 us, Duty Cycle ≤ 2%

** Tc=25 °C

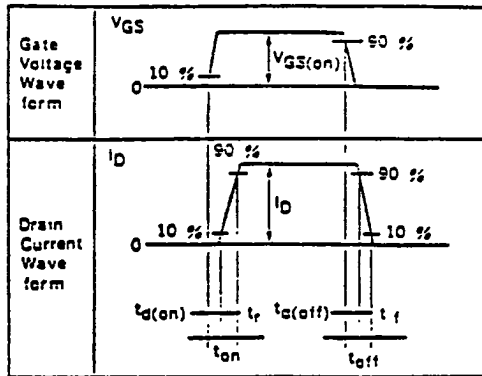
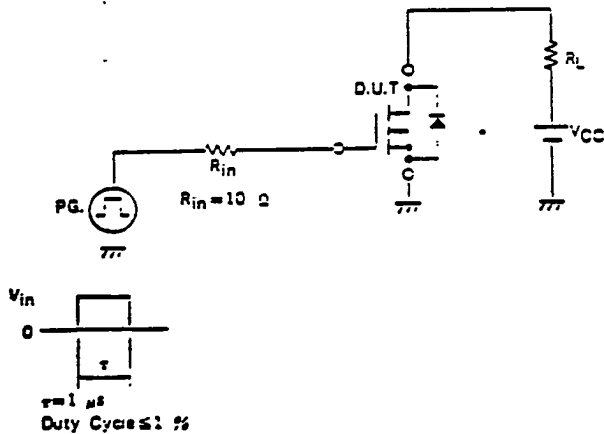
Electrical Characteristics (Ta=25 °C)

Characteristics	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain Leakage Current	I _{DSS}			100	μA	V _{DS} =450V, V _{GS} =0
Gate to Source Leakage Current	I _{GSS}			±100	nA	V _{GS} =±20V, V _{DS} =0
Gate to Source Cutoff Voltage	V _{GS(off)}	1.5		3.5	V	V _{DS} =10V, I _D =1.0mA
Forward Transfer Admittance	y _{fs}	8.0			S	V _{DS} =10V, I _D =0.0A
Drain to Source On-State Resistance	R _{DS(on)}		0.32	0.38	Ω	V _{GS} =10V, I _D =0.0A
Input Capacitance	C _{iss}		2600		pF	V _{DS} =10V,
Output Capacitance	C _{oss}		610		pF	V _{GS} =0,
Reverse Transfer Capacitance	C _{rss}		140		pF	f=1.0MHz
Turn-On Delay Time	t _{d(on)}		20		ns	I _D =0.0A
Rise Time	t _r		40		ns	V _{GS(on)} =10V,
Turn-Off Delay Time	t _{d(off)}		120		ns	V _{CC} =150V,
Fall Time	t _f		55		ns	R _L =16 Ω

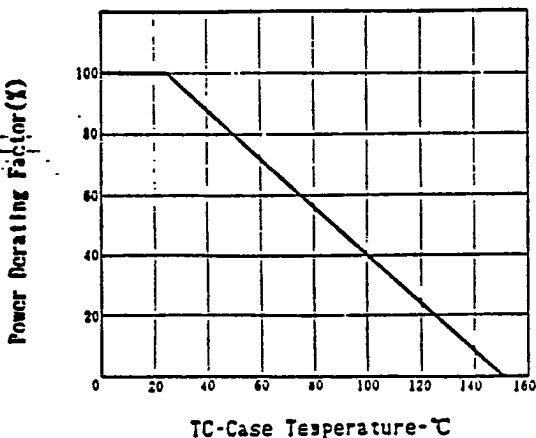
NEC cannot assume any responsibility for any circuits shown or represent that they are free from patent infringement

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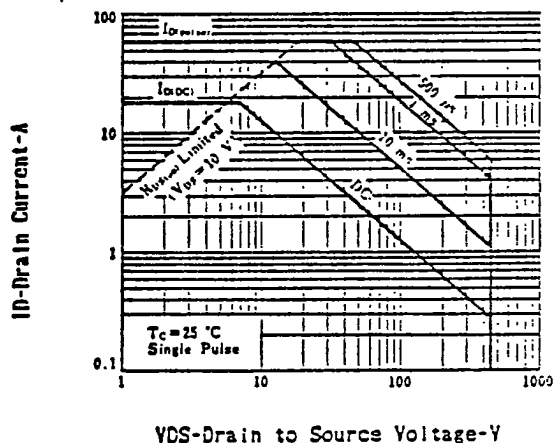
TURN-ON AND TURN-OFF TIME TEST CIRCUIT



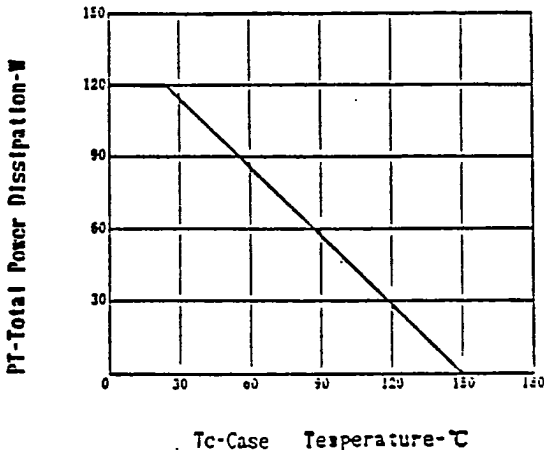
DERATING FACTOR OF FORWARD BIAS SAFE OPERATING AREA



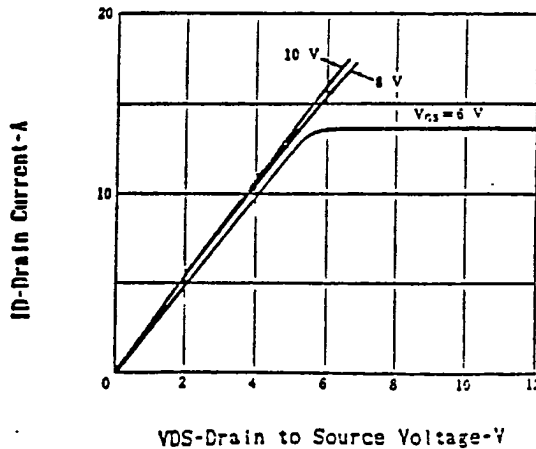
FORWARD BIAS SAFE OPERATING AREA



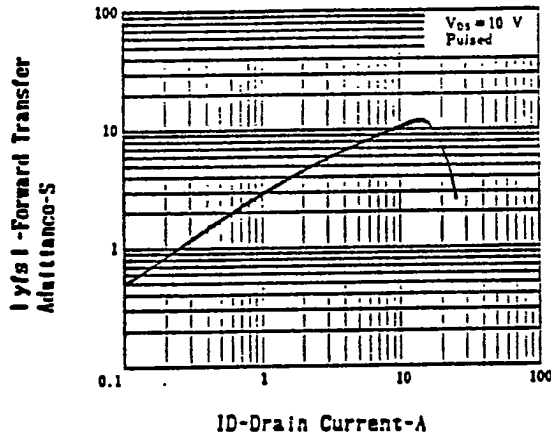
TOTAL POWER DISSIPATION vs. CASE TEMPERATURE



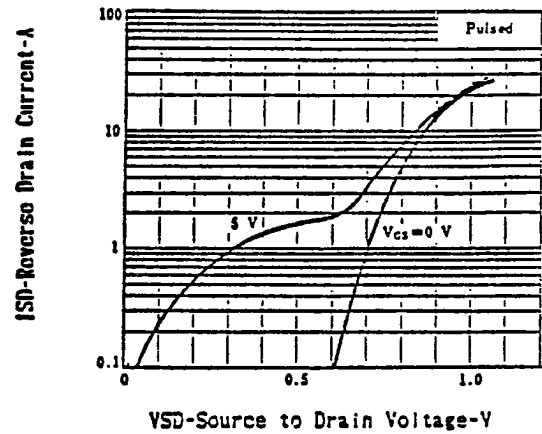
DRAIN CURRENT vs. DRAIN TO SOURCE VOLTAGE



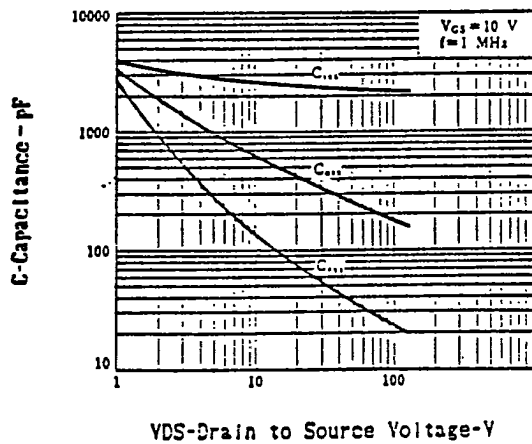
FORWARD TRANSFER ADMITTANCE vs. DRAIN CURRENT



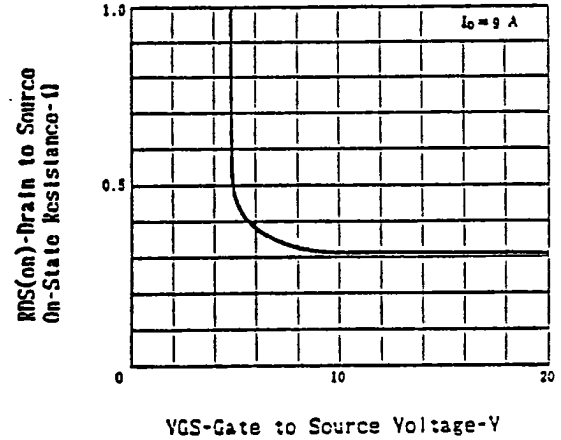
SOURCE TO DRAIN DIODE FORWARD VOLTAGE



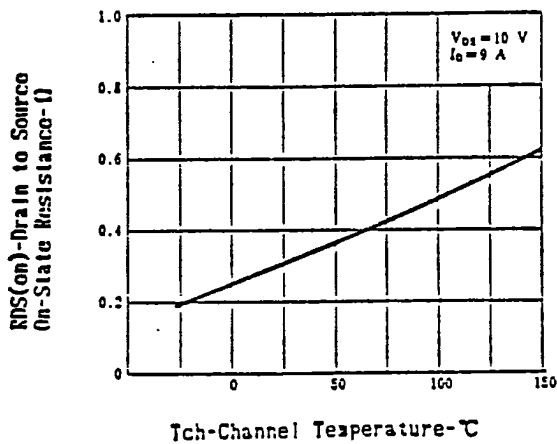
CAPACITANCE vs. DRAIN TO SOURCE VOLTAGE



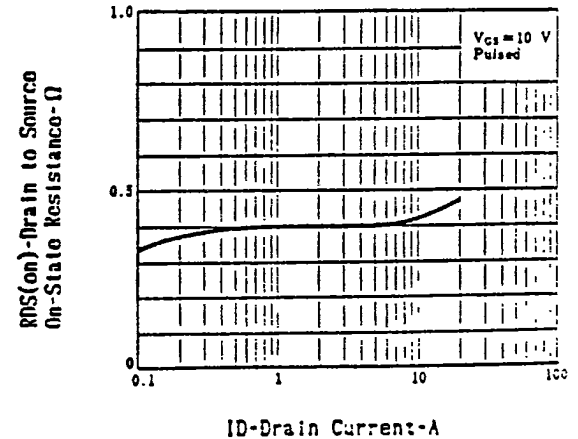
DRAIN TO SOURCE ON-STATE RESISTANCE vs. GATE TO SOURCE VOLTAGE



DRAIN TO SOURCE ON-STATE RESISTANCE vs. CHANNEL TEMPERATURE



DRAIN TO SOURCE ON-STATE RESISTANCE vs. DRAIN CURRENT



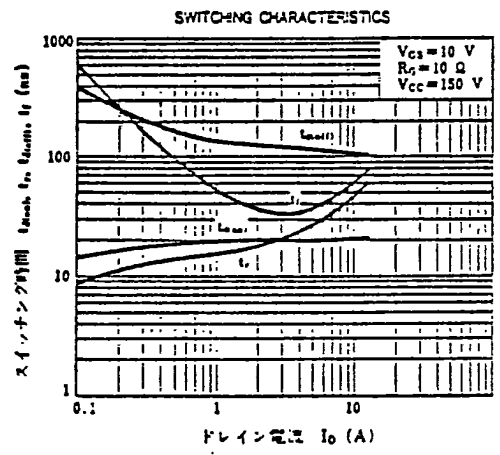
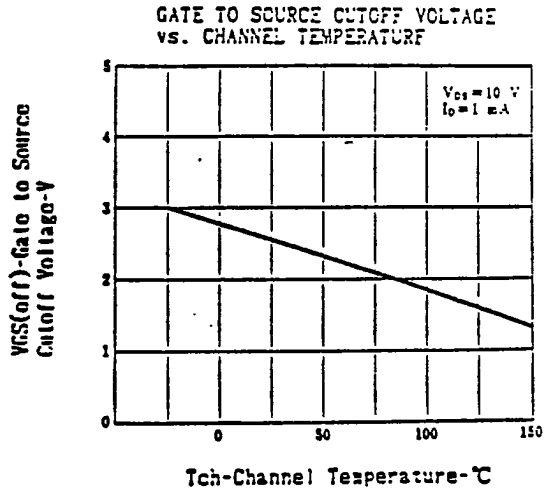
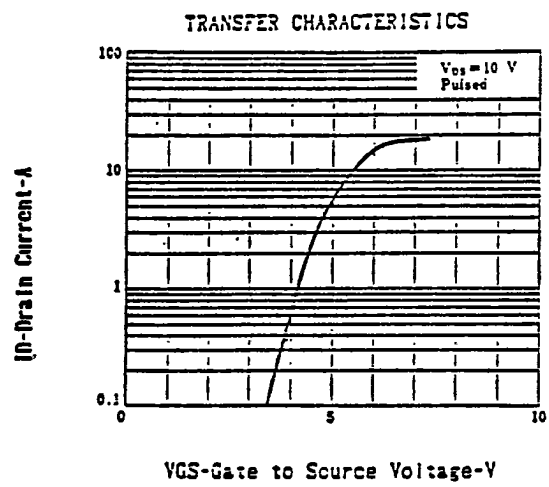
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