

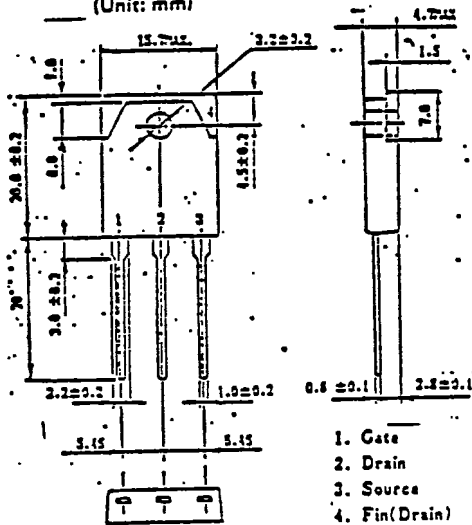


MOS FIELD EFFECT TRANSISTOR

2SK825

**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)}	± 15A
Pulse Drain Current	I _{D(pulse)}	* ± 40A
Total Power Dissipation	P _T	3.0W
Total Power Dissipation	P _{T**}	120W
Channel Temperature	T _{ch}	150 °C
Storage Temperature	T _{stg}	-55 to +150 °C

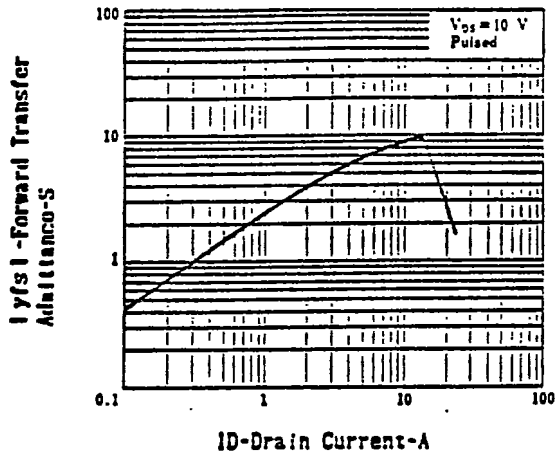
* PW ≤ 300 us, Duty Cycle ≤ 2%
** Tc=25 °C

Electrical Characteristics (Ta=25 °C)

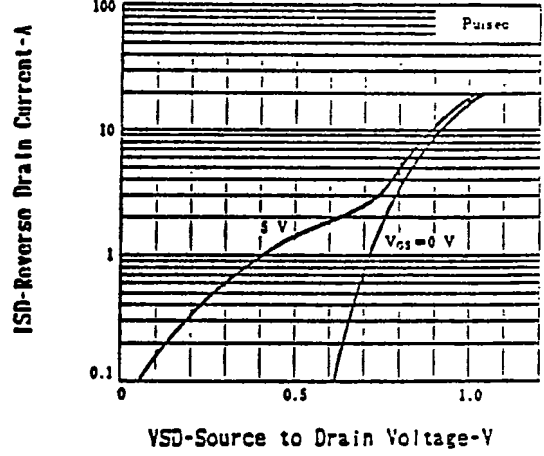
Characteristics	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain Leakage Current	I _{DSS}			100	μA	V _D =150V, V _G =0
Gate to Source Leakage Current	I _{GSS}			±100	nA	V _G =±20V, V _D =0
Gate to Source Cutoff Voltage	V _{G(off)}	1.5		3.5	V	V _D =10V, I _D =1.0mA
Forward Transfer Admittance	y _{fs}	5.0			S	V _D =10V, I _D =7.5A
Drain to Source On-State Resistance	R _{DS(on)}		0.4	0.5	Ω	V _G =10V, I _D =7.5A
Input Capacitance	C _{iss}		2000		pF	V _D = 10V,
Output Capacitance	C _{oss}		500		pF	V _G =0,
Reverse Transfer Capacitance	C _{rss}		140		pF	f=1.0MHz
Turn-On Delay Time	t _{d(on)}		20		ns	I _D =7.5A
Rise Time	t _r		35		ns	V _{G(on)} = 10V,
Turn-Off Delay Time	t _{d(off)}		100		ns	V _{cc} =150V,
Fall Time	t _f		35		ns	R _L = 20 Ω

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

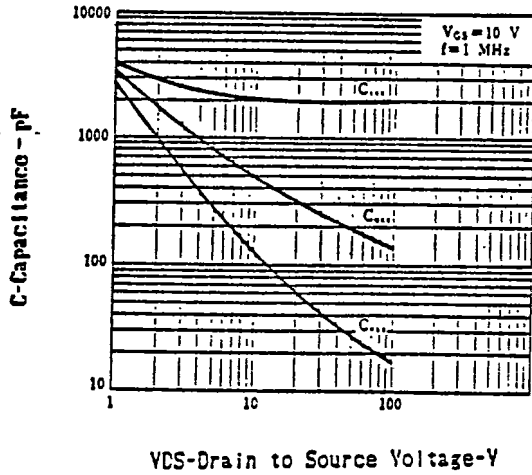
FORWARD TRANSFER ADMITTANCE vs. DRAIN CURRENT



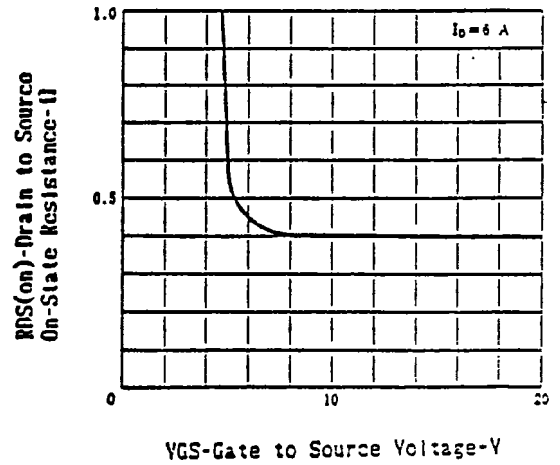
SOURCE TO DRAIN DICED FORWARD VOLTAGE



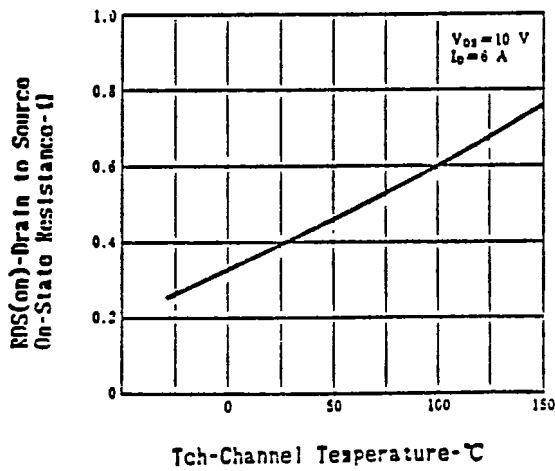
CAPACITANCE vs. DRAIN TO SOURCE VOLTAGE



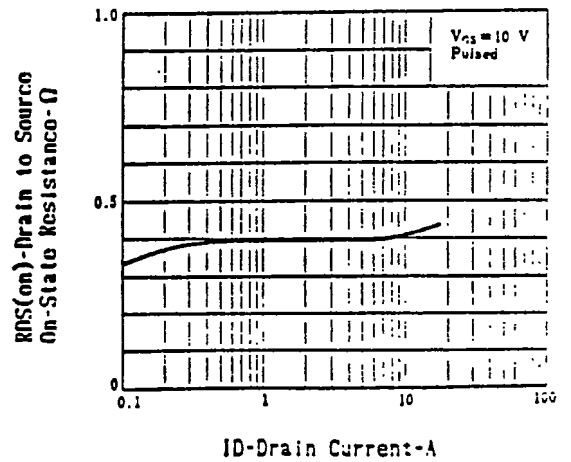
DRAIN TO SOURCE ON-STATE RESISTANCE vs. GATE TO SOURCE VOLTAGE



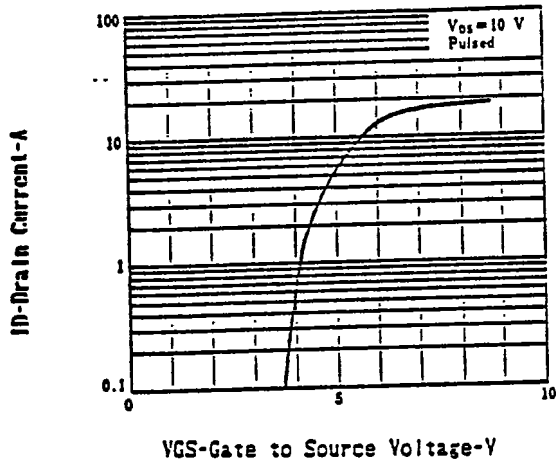
DRAIN TO SOURCE ON-STATE RESISTANCE vs. CHANNEL TEMPERATURE



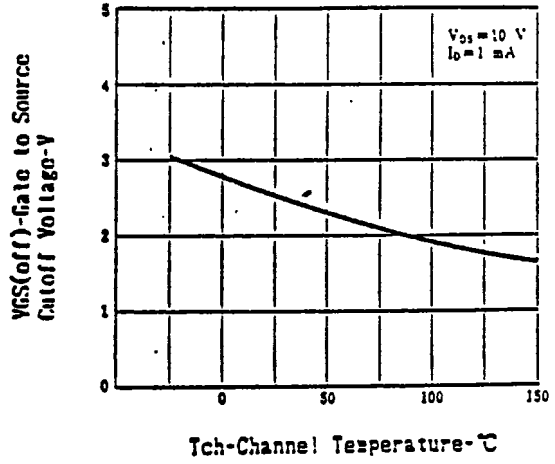
DRAIN TO SOURCE ON-STATE RESISTANCE vs. DRAIN CURRENT



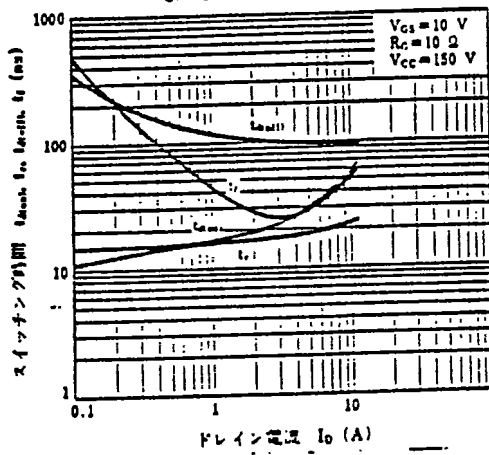
TRANSFER CHARACTERISTICS



GATE TO SOURCE CUTOFF VOLTAGE vs. CHANNEL TEMPERATURE



SWITCHING CHARACTERISTICS



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