



N-CHANNEL MOS FIELD EFFECT POWER TRANSISTOR

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2SK774

DESCRIPTION The 2SK774 is N-channel MOS Field Effect Power Transistor designed for switching power supplies DC-DC converter.

- FEATURES**
- Suitable for switching power supplies, actuator controls, and pulse circuits
 - Low $R_{DS(on)}$
 - No second breakdown

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures

Storage Temperature -55 to $+150$ °C

Channel Temperature 150 °C Maximum

Maximum Power Dissipation ($T_C = 25$ °C)

Total Power Dissipation 120 W

Maximum Voltages and Currents ($T_a = 25$ °C)

V_{DSS} Drain to Source Voltage 500 V

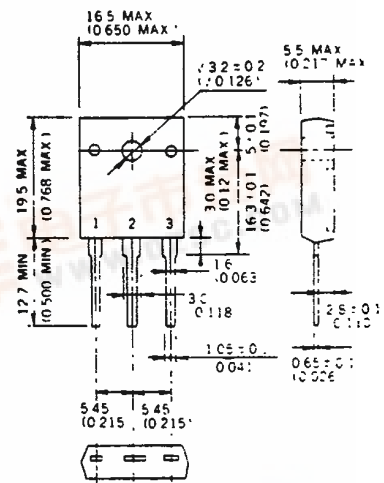
V_{GSS} Gate to Source Voltage ± 20 V

$I_D(DC)$ Drain Current (DC) ± 18 A

$I_D(pulse)$ Drain Current (pulse)* ± 60 A

* $PW \leq 300 \mu s$, Duty Cycle $\leq 2\%$

PACKAGE DIMENSIONS
in millimeters (inches)



1. Gate
2. Drain (Fin)
3. Source

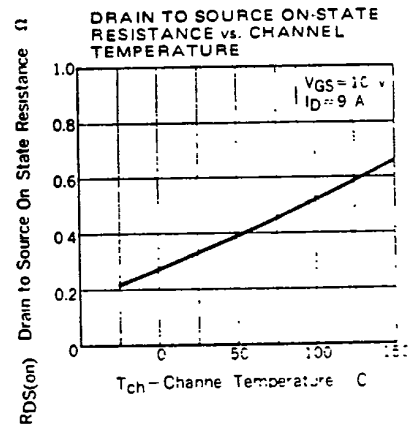
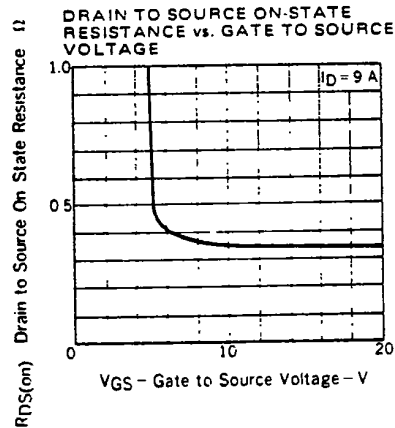
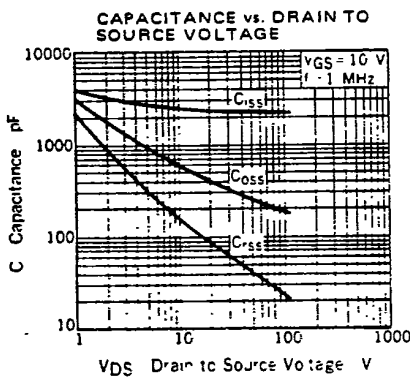
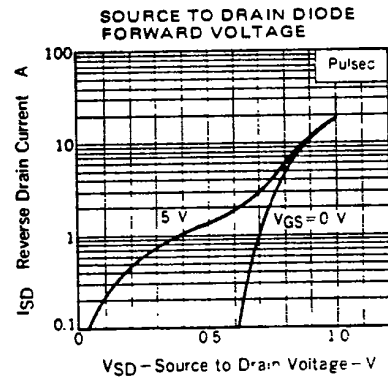
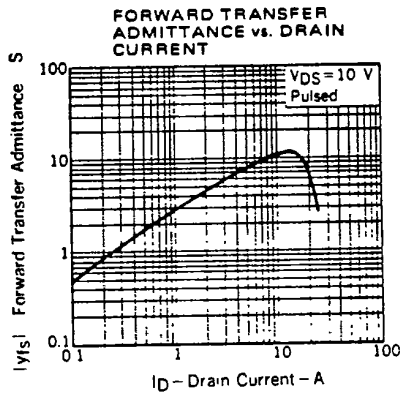
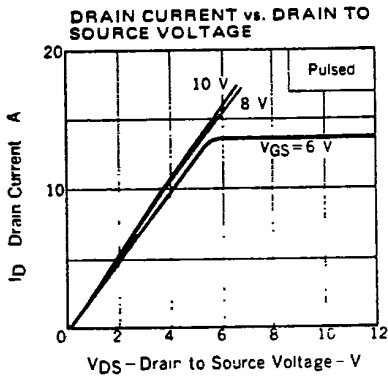
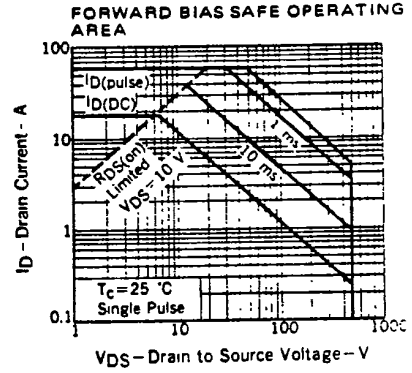
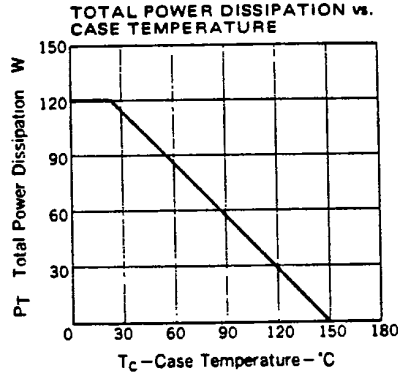
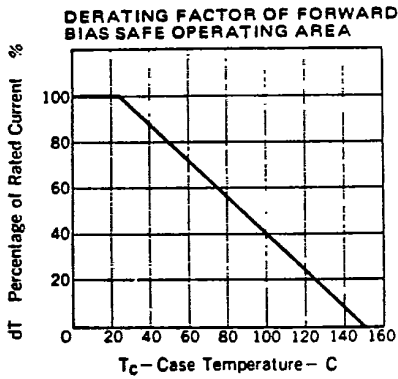
ELECTRICAL CHARACTERISTICS ($T_a = 25$ °C)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
I_{DSS}	Drain Leakage Current			100	μA	$V_{DS} = 500 V, V_{GS} = 0$
I_{GSS}	Gate to Source Leakage Current			± 100	nA	$V_{GS} = \pm 20 V, V_{DS} = 0$
$V_{GS(off)}$	Gate to Source Cutoff Voltage	1.5		3.5	V	$V_{DS} = 10 V, I_D = 1 mA$
$ Y_{fs} $	Forward Transfer Admittance	8.0			S	$V_{DS} = 10 V, I_D = 9 A$
$R_{DS(on)}$	Drain to Source On-State Resistance		0.35	0.45	Ω	$V_{GS} = 10 V, I_D = 9 A$
C_{iss}	Input Capacitance		2600		pF	
C_{oss}	Output Capacitance		620		pF	$V_{DS} = 10 V, V_{GS} = 0, f = 1 MHz$
C_{rss}	Reverse Transfer Capacitance		170		pF	
$t_d(on)$	Turn-On Delay Time		35		ns	$I_D = 9 A, V_{CC} = 150 V$
t_r	Rise Time		55		ns	$V_{GS(on)} = 10 V$
$t_d(off)$	Turn-Off Delay Time		150		ns	$R_L = 16 \Omega$
t_f	Fall Time		55		ns	$R_{in} = 10 \Omega$

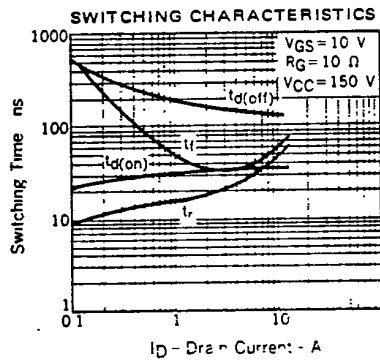
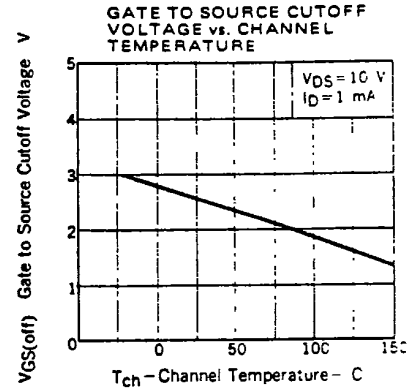
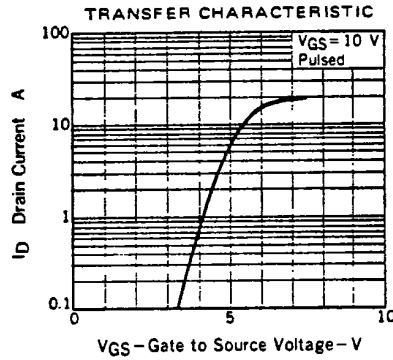
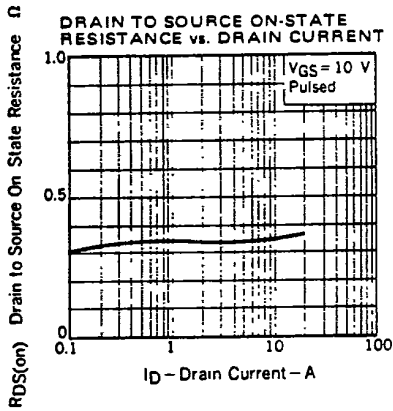


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TYPICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$)



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SWITCHING TIME TEST CIRCUIT

