

N-CHANNEL MOS FIELD EFFECT POWER TRANSISTOR

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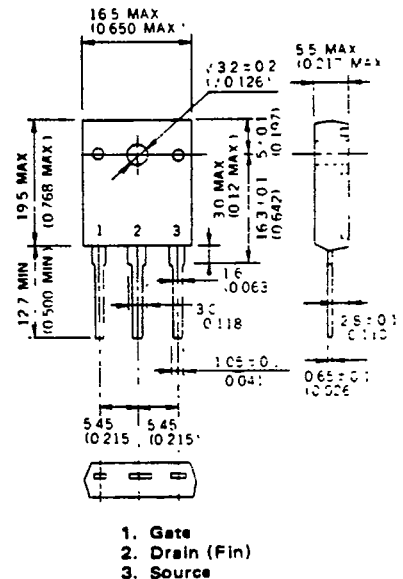
2SK774

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

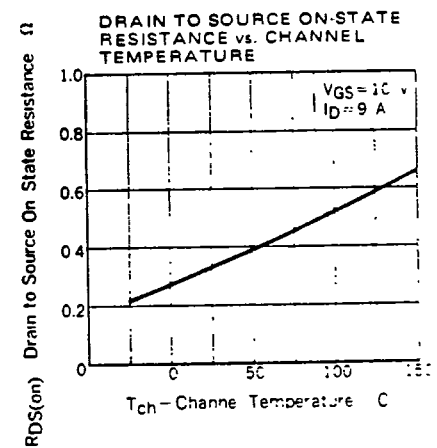
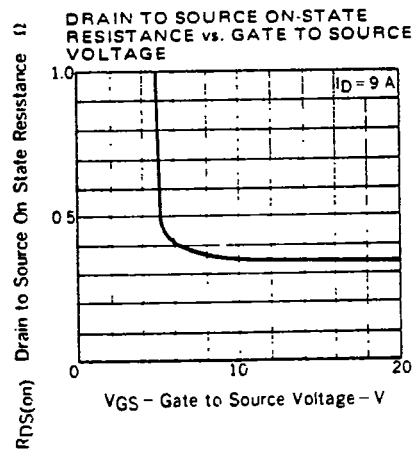
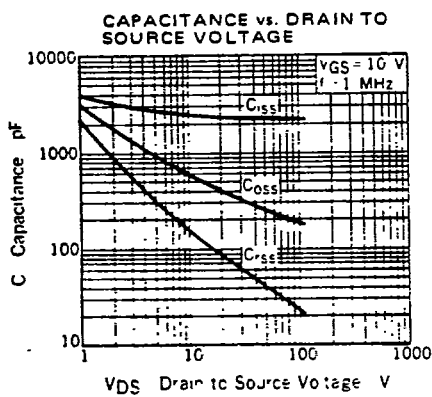
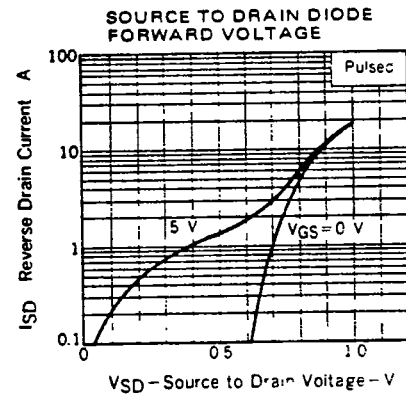
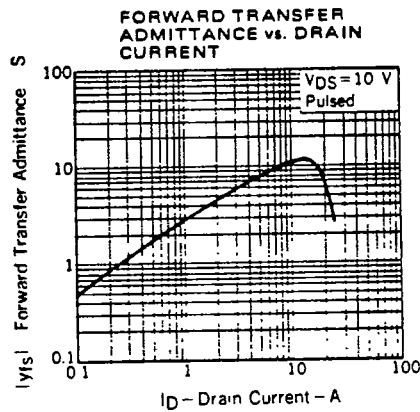
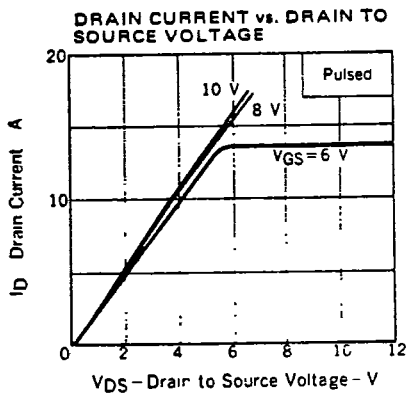
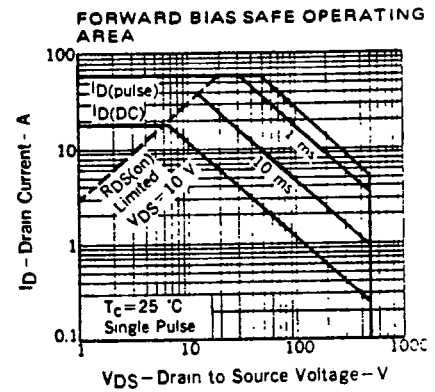
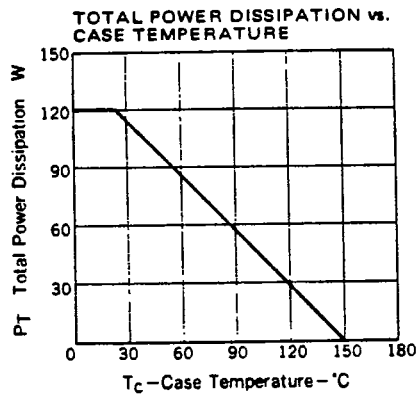
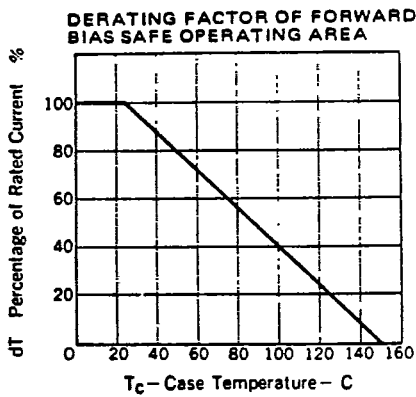
ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures		
Storage Temperature		-55 to +150 °C
Channel Temperature		150 °C Maximum
Maximum Power Dissipation ($T_C = 25^\circ\text{C}$)		
Total Power Dissipation		120 W
Maximum Voltages and Currents ($T_a = 25^\circ\text{C}$)		
V_{DS}	Drain to Source Voltage	500 V
V_{GS}	Gate to Source Voltage	± 20 V
$I_D(DC)$	Drain Current (DC)	± 18 A
$I_D(pulse)$	Drain Current (pulse)*	± 60 A

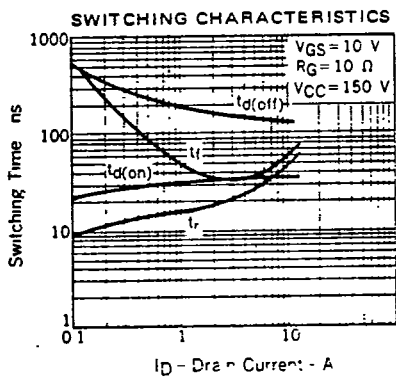
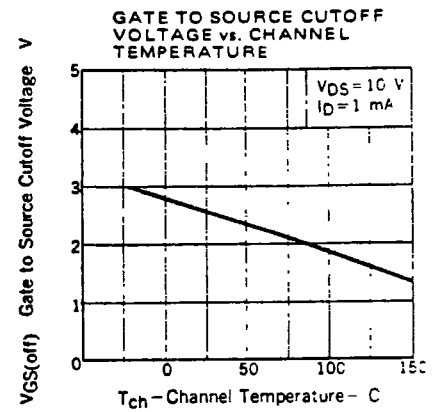
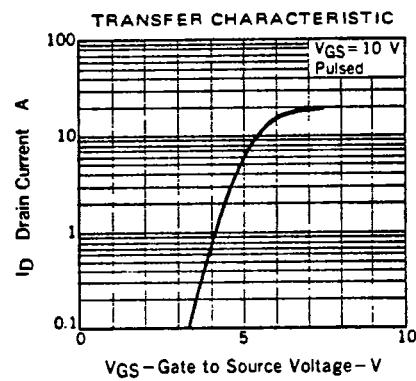
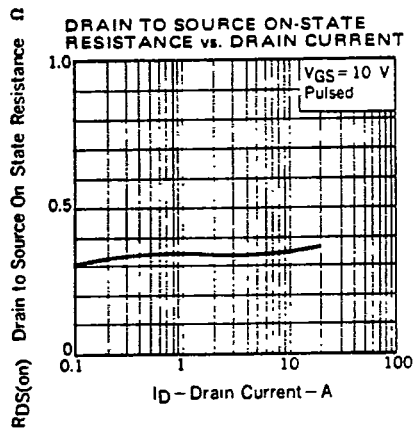
* $PW \leq 300 \mu s$, Duty Cycle $\leq 2\%$ **PACKAGE DIMENSIONS**
in millimeters (inches)**ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)**

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	$V_{DS} = 10 V, V_{GS} = 0, f = 1 MHz$ $I_D = 9 A, V_{CC} \approx 150 V$ $V_{GS(on)} = 10 V$ $R_L = 16 \Omega$ $R_{in} = 10 \Omega$
C_{oss}	Output Capacitance		620		pF	
C_{rss}	Reverse Transfer Capacitance		170		pF	
$t_{d(on)}$	Turn-On Delay Time		35		ns	
t_r	Rise Time		55		ns	
$t_{d(off)}$	Turn-Off Delay Time		150		ns	
t_f	Fall Time		55		ns	

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

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SWITCHING TIME TEST CIRCUIT

