

N-CHANNEL MOS FIELD EFFECT POWER TRANSISTOR

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2SK798

DESCRIPTION The 2SK798 is N-Channel MOS Field Effect Power Transistor designed for solenoid, motor and lamp driver.

FEATURES

- 4 V Gate Drive — Logic level —
- Low $R_{DS(on)}$
- No Secondary Breakdown

ABSOLUTE MAXIMUM RATINGS

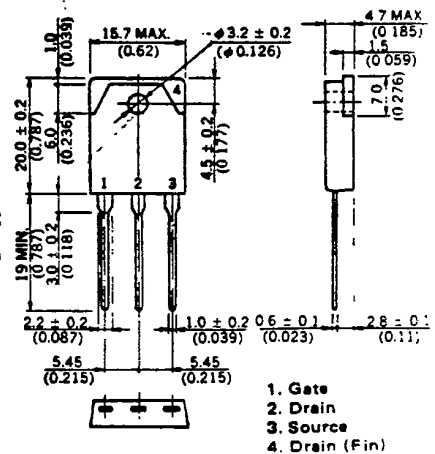
Maximum Temperatures

Storage Temperature -55 to $+150$ °CChannel Temperature 150 °C Maximum

Maximum Power Dissipations

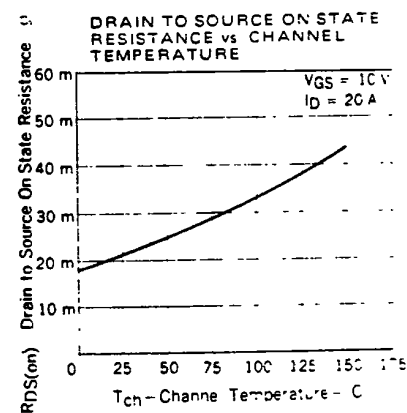
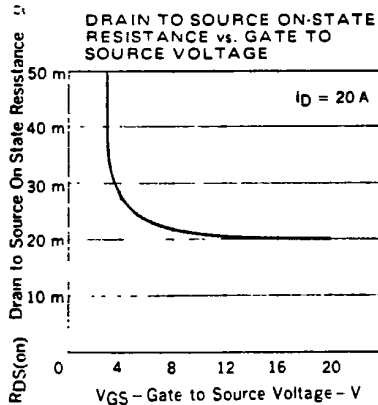
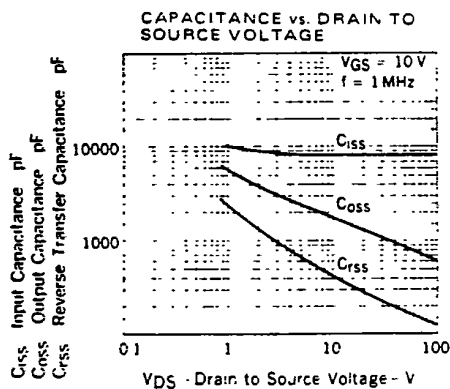
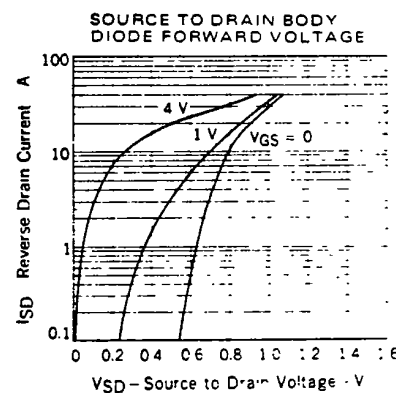
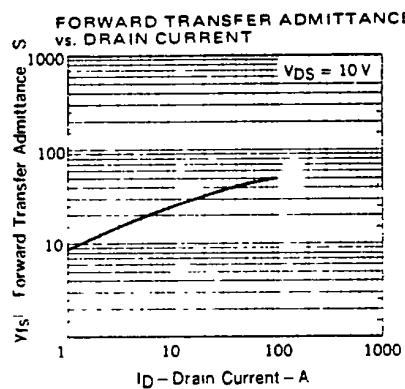
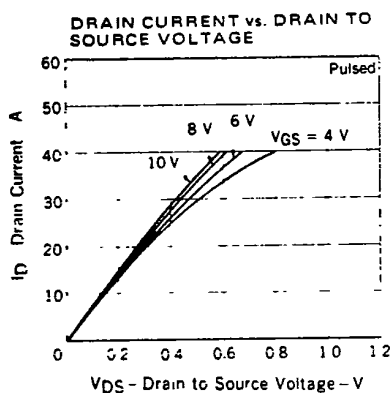
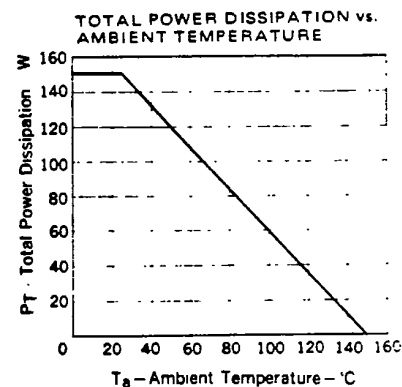
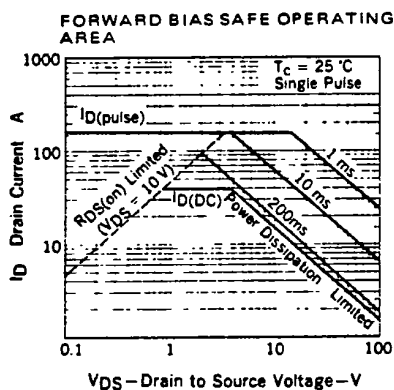
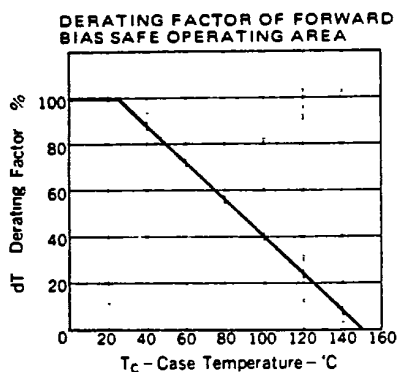
Total Power Dissipation ($T_a = 25$ °C) 3.0 WTotal Power Dissipation ($T_c = 25$ °C) 150 WMaximum Voltages and Currents ($T_a = 25$ °C) V_{DS} Drain to Source Voltage 100 V V_{GS} Gate to Source Voltage ± 20 V $I_{D(DC)}$ Drain Current (DC) ± 40 A $I_{D(pulse)}$ Drain Current (pulse)* ± 160 A* $PW \leq 300$ μs , Duty Cycle ≤ 2 %**PACKAGE DIMENSIONS**

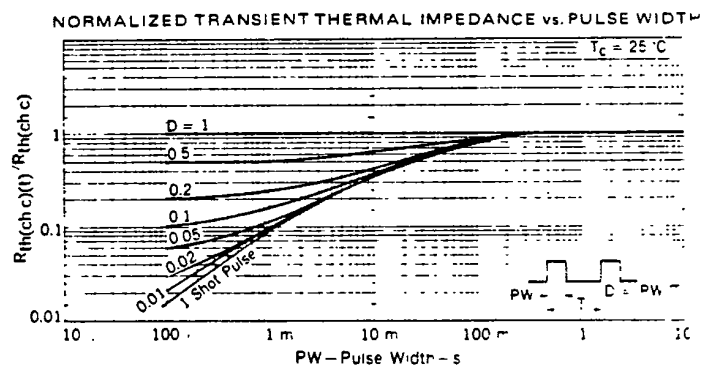
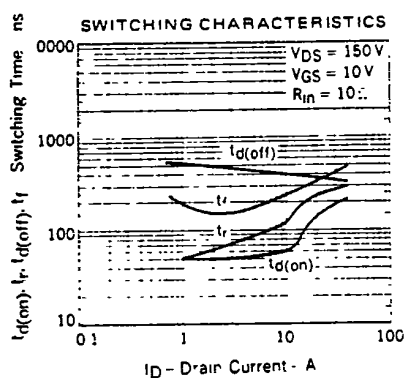
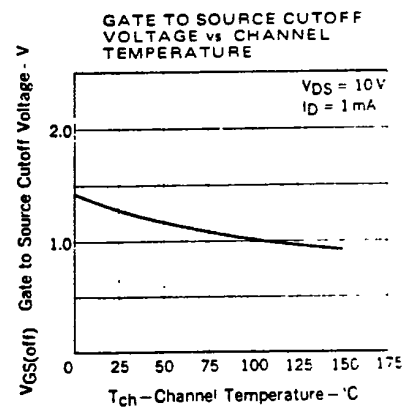
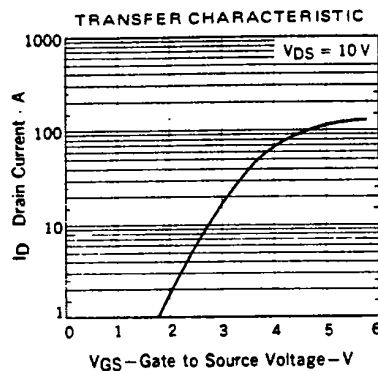
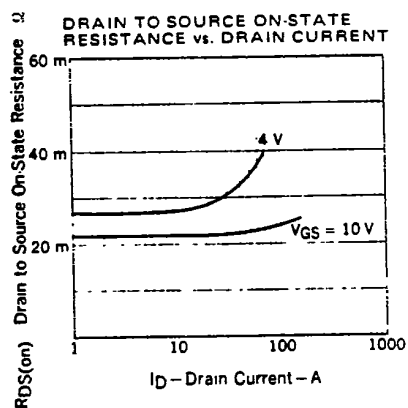
in millimeters (inches)

**ELECTRICAL CHARACTERISTICS ($T_a = 25$ °C)**

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
$R_{DS(on)}$	Drain to Source On-State Resistance			31	m Ω	$V_{GS} = 10$ V, $I_D = 20$ A
$R_{DS(on)}$	Drain to Source On-State Resistance			40	m Ω	$V_{GS} = 4$ V, $I_D = 20$ A
$V_{GS(off)}$	Gate to Source Cutoff Voltage	1.0		2.5	V	$V_{DS} = 10$ V, $I_D = 1$ mA
$ Y_{fs} $	Forward Transfer Admittance	5.0			S	$V_{DS} = 10$ V, $I_D = 20$ A
I_{DSS}	Drain Leakage Current			100	μ A	$V_{DS} = 100$ V, $V_{GS} = 0$
I_{GSS}	Gate to Source Leakage Current			± 100	nA	$V_{GS} = \pm 20$ V, $V_{DS} = 0$
C_{iss}	Input Capacitance		8000		pF	$V_{DS} = 10$ V
C_{oss}	Output Capacitance		1800		pF	$V_{GS} = 0$
C_{rss}	Reverse Transfer Capacitance		450		pF	$f = 1$ MHz
$t_{d(on)}$	Turn-On Delay Time		60		ns	$I_D = 20$ A, $V_{CC} \approx 50$ V $R_L = 2.5$ Ω $R_{in} = 10$ Ω
t_r	Rise Time		120		ns	
$t_{d(off)}$	Turn-Off Delay Time		400		ns	
t_f	Fall Time		250		ns	

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



SWITCHING TIME TEST CIRCUIT

