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P1 98.2



### N-CHANNEL MOS FIELD EFFECT POWER TRANSISTOR

# 2SK1198

**DESCRIPTION** The 2SK1198 is N-channel MOS Field Effect Power Transistor designed for switching power supplies, AC Adapters.

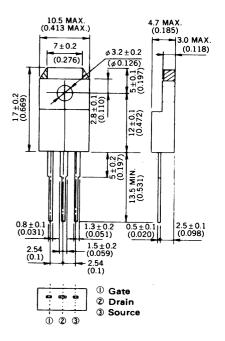
## **FEATURES** • Suitable for switching power supplies, actuater controls, and pulse circuits.

- Low R<sub>DS(on)</sub>
- No second breakdown
- Isolated mold package

#### **ABSOLUTE MAXIMUM RATINGS**

Maximum Temperatures	
Storage Temperature	С
Channel Temperature 150 °C Maximun	n
Maximum Power Dissipation ( $T_c = 25$ °C)	
Total Power Dissipation	
Maximum Voltages and Currents (T <sub>a</sub> = 25 °C)	
V <sub>DSS</sub> Drain to Source Voltage 700 V	
V <sub>GSS</sub> Gate to Source Voltage ±20 V	
I <sub>D(DC)</sub> Drain Current (DC) ±2 A	
I <sub>D(pulse)</sub> Drain Current (pulse)* ±8.0 A	
* PW $\leq$ 10 $\mu$ s, Duty Cycle $\leq$ 1 %	

### PACKAGE DIMENSIONS in millimeters (inches)

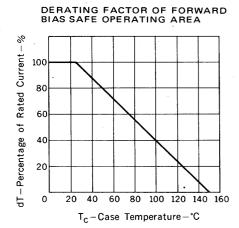


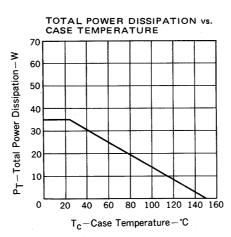
### ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

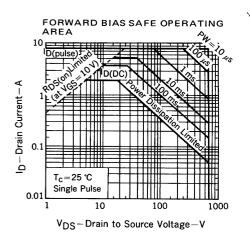
SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
IDSS	Drain Leakage Current			100	μΑ	V <sub>DS</sub> = 700 V, V <sub>GS</sub> = 0
IGSS	Gate to Source Leakage Current			± 100	nΑ	V <sub>GS</sub> = ±20 V V <sub>DS</sub> = 0
V <sub>GS(off)</sub>	Gate to Source Cutoff Voltage	1.5		3.5	V	V <sub>DS</sub> = 10 V, I <sub>D</sub> = 1 mA
yfs	Forward Transfer Admittance	1.0			s	V <sub>DS</sub> = 10 V, I <sub>D</sub> = 1 A
R <sub>DS</sub> (on)	Drain to Source On-State Resistance		2.5	3.2	Ω	V <sub>GS</sub> = 10 V, I <sub>D</sub> = 1 A
Ciss	Input Capacitance		950		pF	
Coss	Output Capacitance		350		pF }	$V_{DS}$ = 10 V, $V_{GS}$ = 0, f = 1 MHz
C <sub>rss</sub>	Reverse Transfer Capacitance		200		pF	
<sup>t</sup> d(on)	Turn-On Delay Time		10		ns )	$I_D = 1 \text{ A, } V_{DD} = 150 \text{ V}$ $V_{GS(on)} = 10 \text{ V}$ $R_L = 150 \Omega$ $R_{in} = 10 \Omega$
t <sub>r</sub>	Rise Time		10		ns	
<sup>t</sup> d(off)	Turn-Off Delay Time		60		ns	
tf	Fall Time		20		ns	

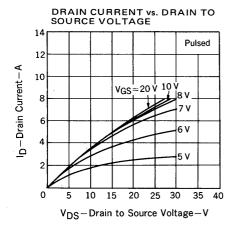


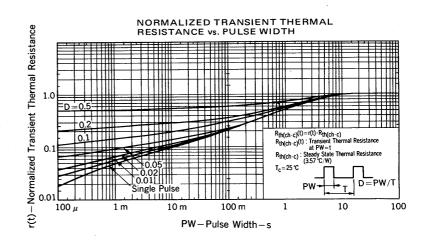
### TYPICAL CHARACTERISTICS (Ta = 25 °C)

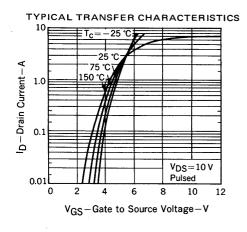


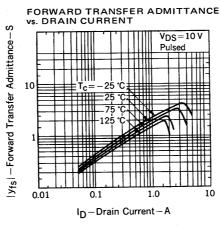


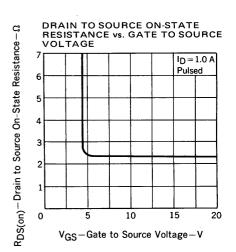


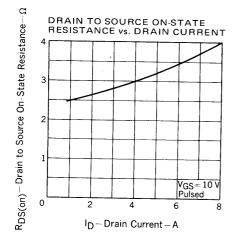


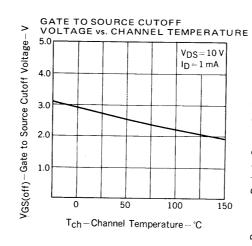


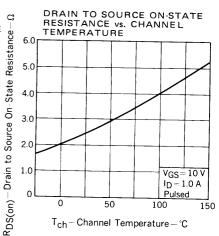


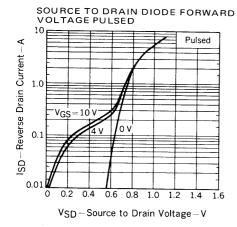


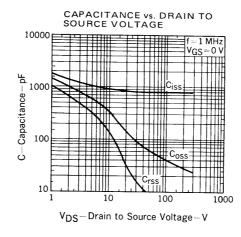


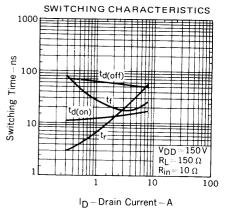


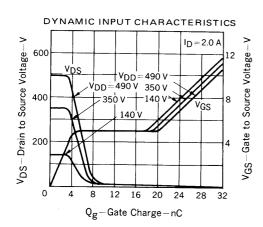






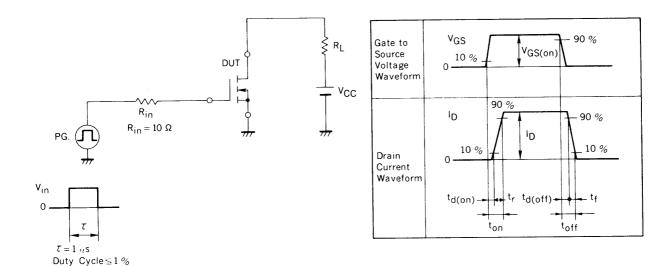








### SWITCHING TIME TEST CIRCUIT 1



#### **TEST CIRCUIT 2 GATE CHARGE**

