

N-CHANNEL MOS FIELD EFFECT POWER TRANSISTOR

**Phase-out/Discontinued**

**2SK928**

**DESCRIPTION** The 2SK928 is N-channel MOS Field Effect Power Transistor designed for switching power supplies, DC-DC converters.

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

**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 . . . . . 35 W

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

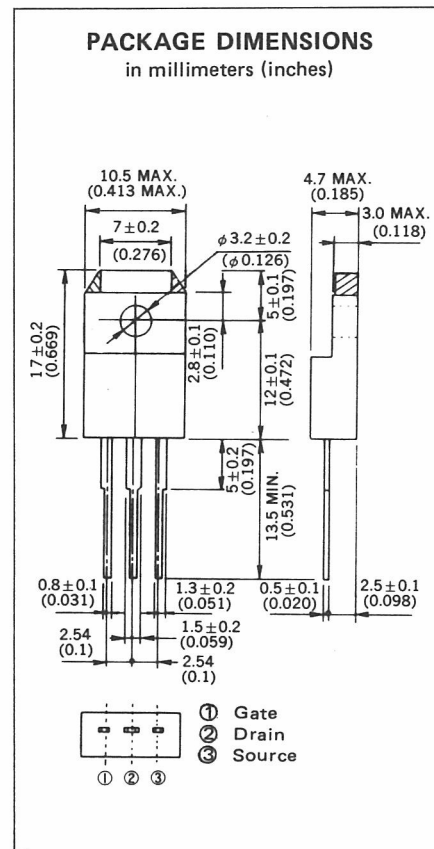
$V_{DSS}$  Drain to Source Voltage . . . . . 450 V

$V_{GSS}$  Gate to Source Voltage. . . . . ±20 V

$I_{D(DC)}$  Drain Current (DC) . . . . . ±5 A

$I_{D(pulse)}$  Drain Current (pulse)\* . . . . . ±20 A

\*  $PW \leq 10 \mu s$ , Duty Cycle  $\leq 1\%$

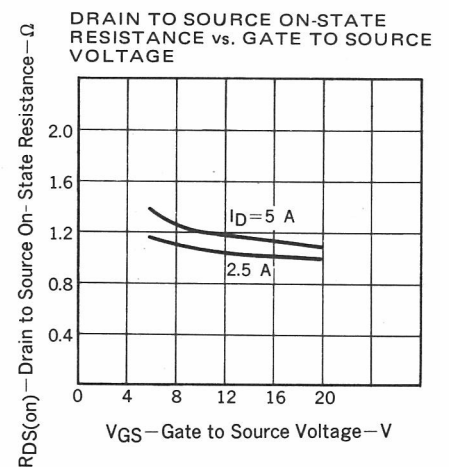
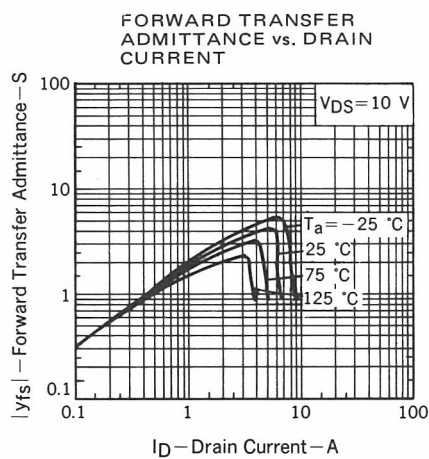
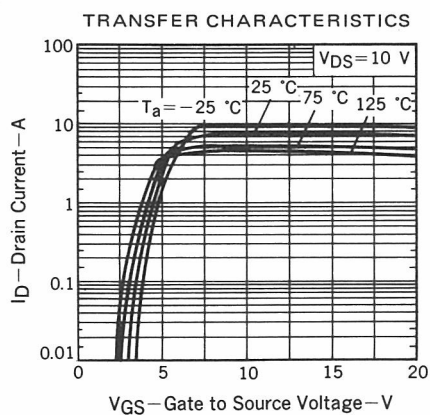
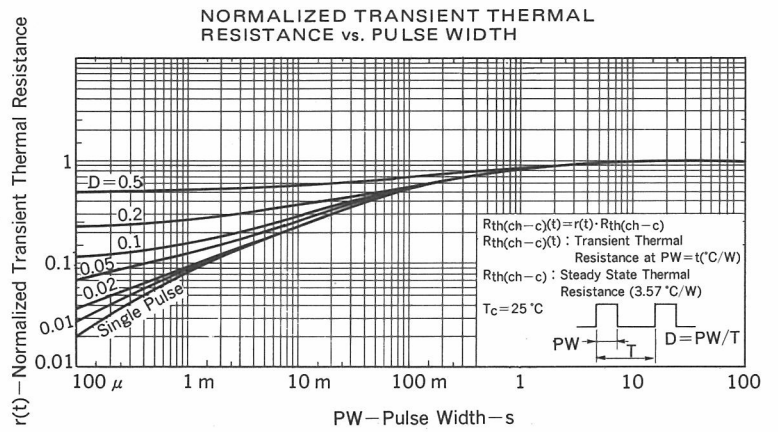
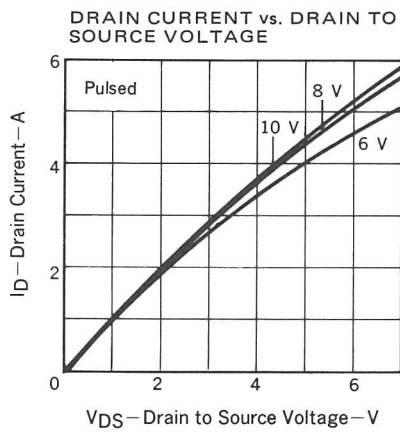
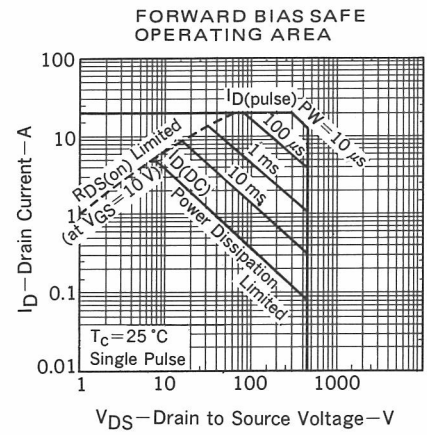
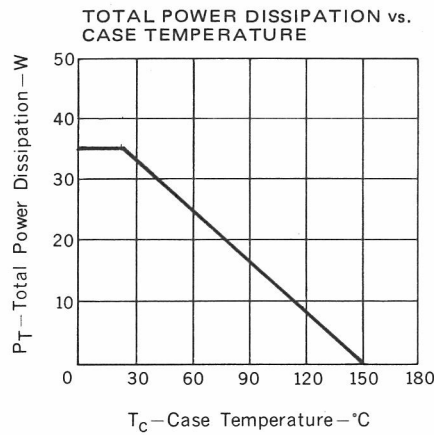
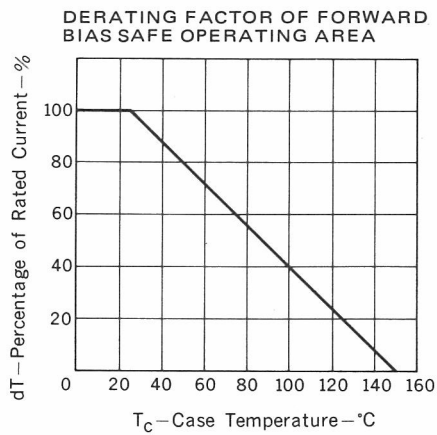


**ELECTRICAL CHARACTERISTICS ( $T_a = 25$  °C)**

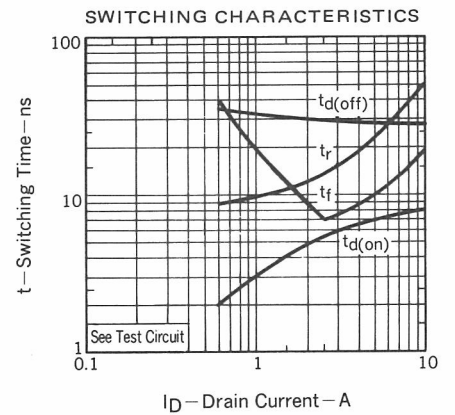
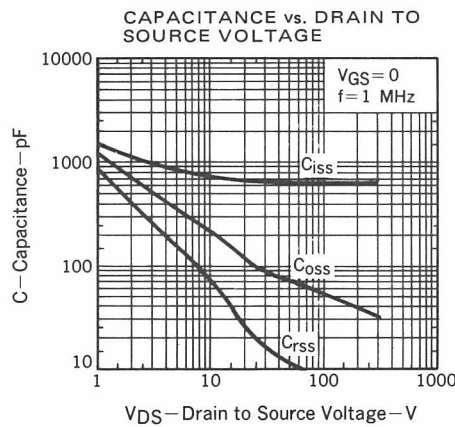
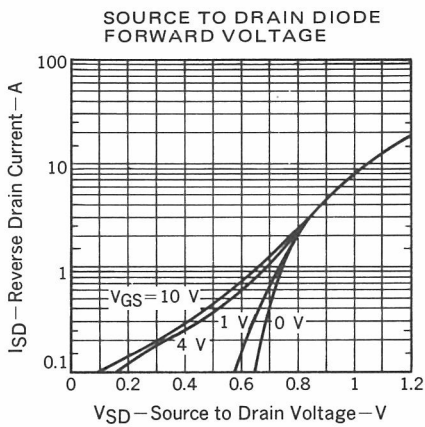
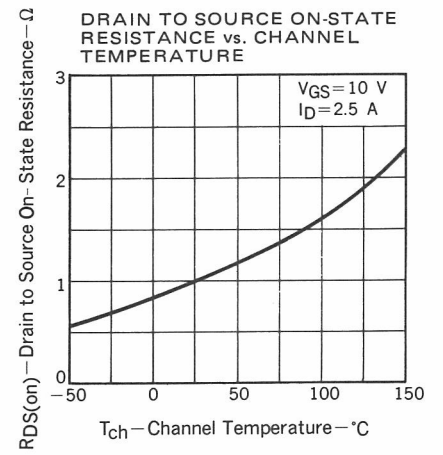
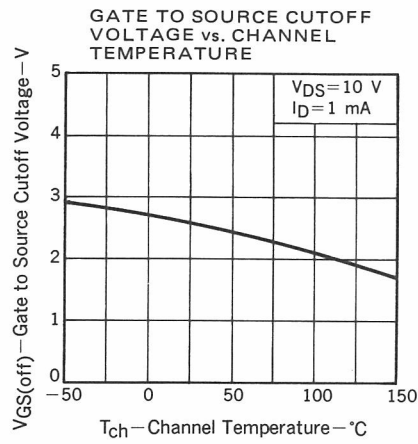
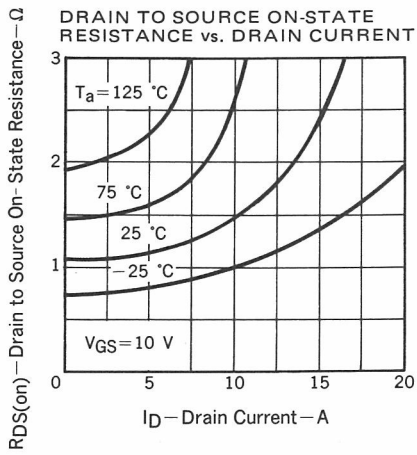
SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
$I_{DSS}$	Drain Leakage Current			100	$\mu A$	$V_{DS} = 450 V, V_{GS} = 0$
$I_{GSS}$	Gate to Source Leakage Current			±100	nA	$V_{GS} = \pm 20 V, V_{DS} = 0$
$V_{GS(off)}$	Gate to Source Cutoff Voltage	1.5		3.5	V	$V_{DS} = 10 V, I_D = 1 mA$
$ Y_{fs} $	Forward Transfer Admittance	2.5	3.0		S	$V_{DS} = 10 V, I_D = 2.5 A$
$R_{DS(on)}$	Drain to Source On-State Resistance		1.0	1.4	$\Omega$	$V_{GS} = 10 V, I_D = 2.5 A$
$C_{iss}$	Input Capacitance		700		pF	$V_{DS} = 10 V,$ $V_{GS} = 0,$ $f = 1 MHz$
$C_{oss}$	Output Capacitance		220		pF	
$C_{rss}$	Reverse Transfer Capacitance		75		pF	
$t_{d(on)}$	Turn-On Delay Time		6		ns	$I_D = 2.5 A, V_{DD} \doteq 150 V$ $V_{GS(on)} = 10 V$ $R_L = 60 \Omega$ $R_{in} = 10 \Omega$
$t_r$	Rise Time		15		ns	
$t_{d(off)}$	Turn-Off Delay Time		30		ns	
$t_f$	Fall Time		7		ns	

**Phase-out/Discontinued**

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



**Phase-out/Discontinued**



**Phase-out/Discontinued**

SWITCHING TIME TEST CIRCUIT

