

To our customers,

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## Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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**Phase-out/Discontinued**

# 2SK800

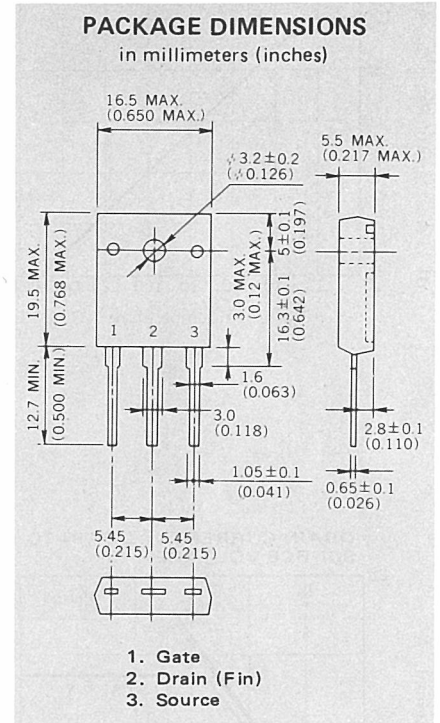
**DESCRIPTION** The 2SK800 is N-channel MOS Field Effect Power Transistor designed for converters.

- 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 ( $T_C = 25\text{ °C}$ )	
Total Power Dissipation	120 W
Maximum Voltages and Currents ( $T_a = 25\text{ °C}$ )	
$V_{DSS}$ Drain to Source Voltage	450 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

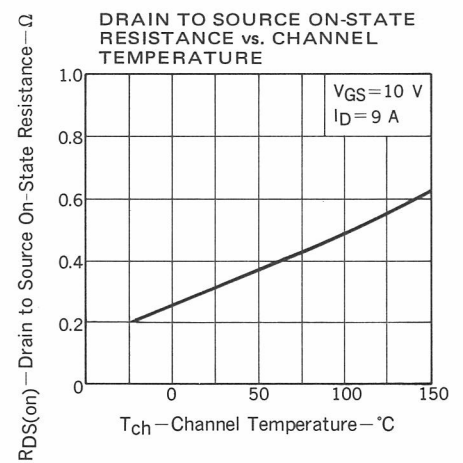
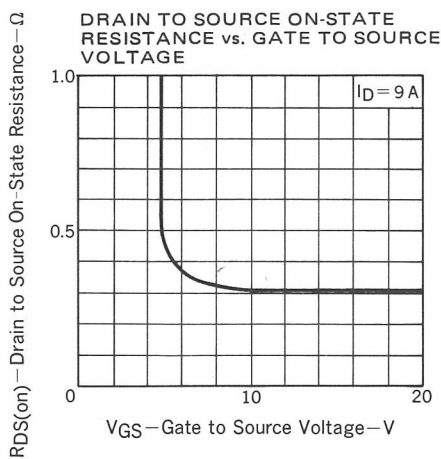
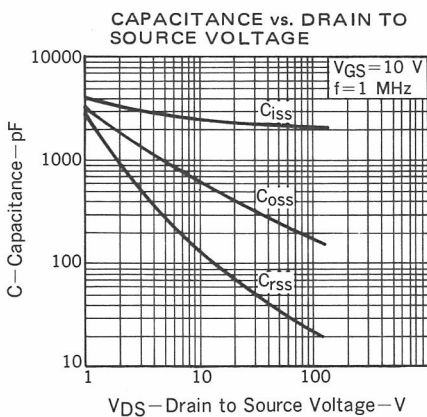
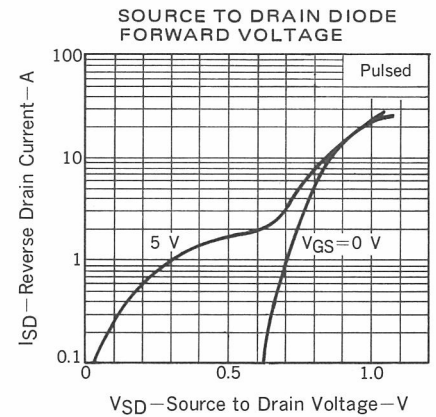
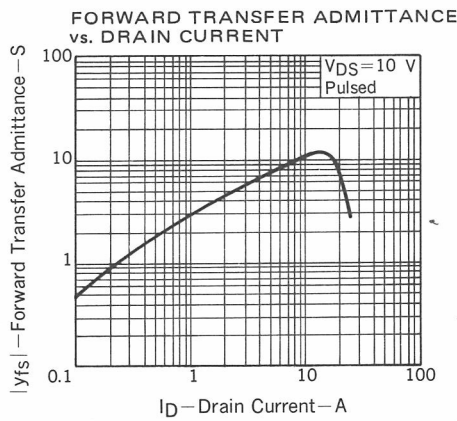
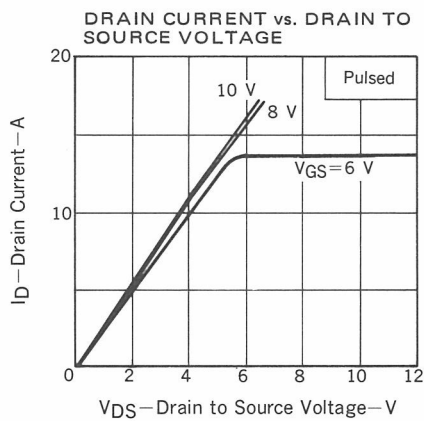
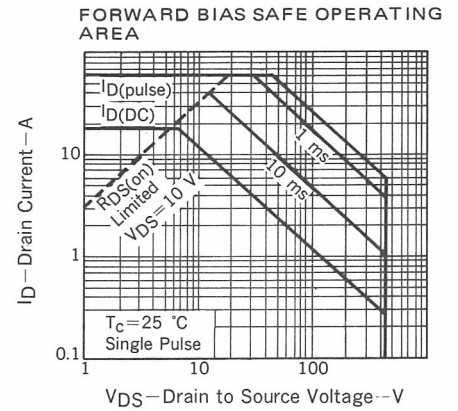
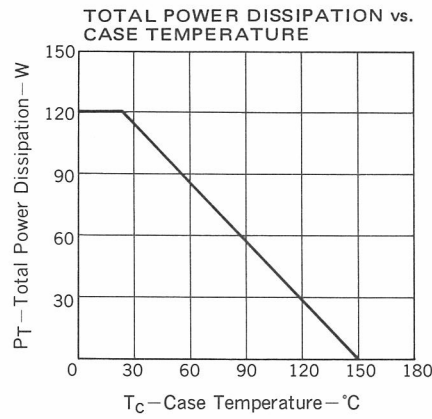
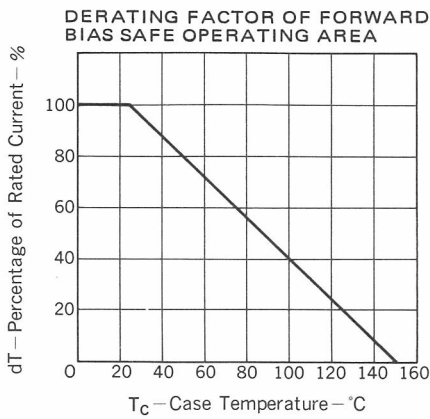
\*  $PW \leq 100\ \mu s$ , Duty Cycle  $\leq 2\%$



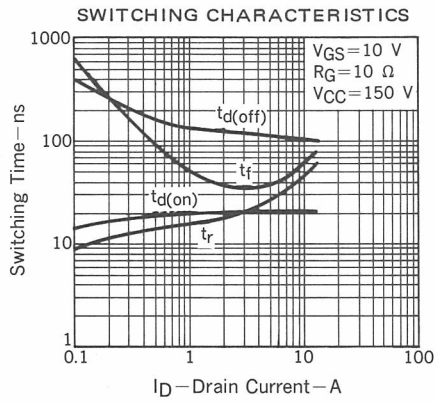
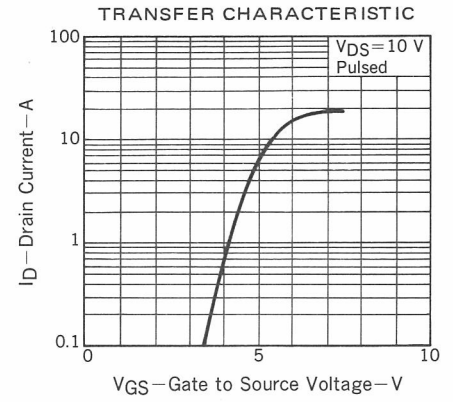
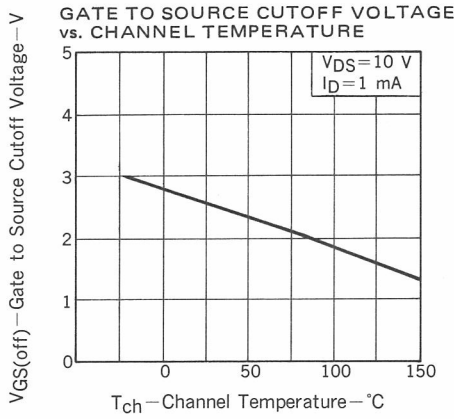
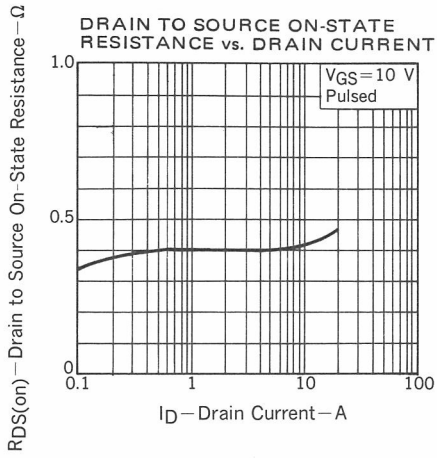
**ELECTRICAL CHARACTERISTICS ( $T_a = 25\text{ °C}$ )**

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
$I_{DSS}$	Drain Leakage Current			100	$\mu A$	$V_{DS} = 450\text{ V}, V_{GS} = 0$
$I_{GSS}$	Gate to Source Leakage Current			±100	nA	$V_{GS} = \pm 20\text{ V}, V_{DS} = 0$
$V_{GS(off)}$	Gate to Source Cutoff Voltage	1.5		3.5	V	$V_{DS} = 10\text{ V}, I_D = 1\text{ mA}$
$ y_{fs} $	Forward Transfer Admittance	8.0			S	$V_{DS} = 10\text{ V}, I_D = 9\text{ A}$
$R_{DS(on)}$	Drain to Source On-State Resistance		0.32	0.38	$\Omega$	$V_{GS} = 10\text{ V}, I_D = 9\text{ A}$
$C_{iss}$	Input Capacitance		2600		pF	$V_{DS} = 10\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$
$C_{oss}$	Output Capacitance		610		pF	
$C_{rss}$	Reverse Transfer Capacitance		140		pF	
$t_{d(on)}$	Turn-On Delay Time		20		ns	
$t_r$	Rise Time		40		ns	$I_D = 9\text{ A}, V_{CC} = 150\text{ V}$ $V_{GS(on)} = 10\text{ V}$ $R_{in} = 10\ \Omega$
$t_{d(off)}$	Turn-Off Delay Time		120		ns	
$t_f$	Fall Time		55		ns	

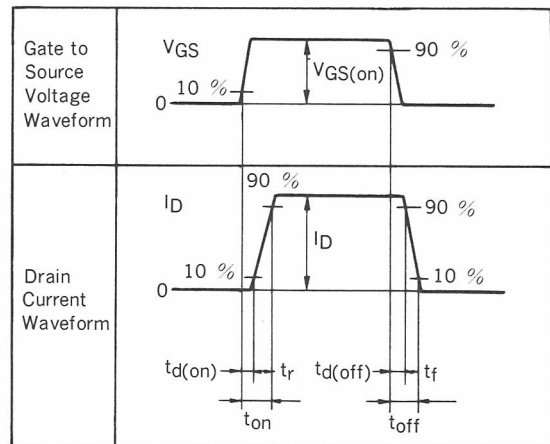
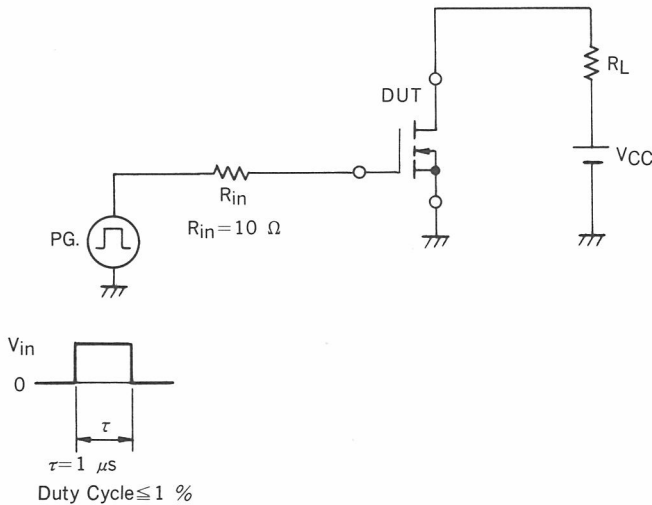
TYPICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )



**Phase-out/Discontinued**



**SWITCHING TIME TEST CIRCUIT**



**Phase-out/Discontinued**

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