

To our customers,

Old Company Name in Catalogs and Other Documents

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

April 1st, 2010
Renesas Electronics Corporation

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

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Phase-out/Discontinued

2SK787

DESCRIPTION The 2SK787 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

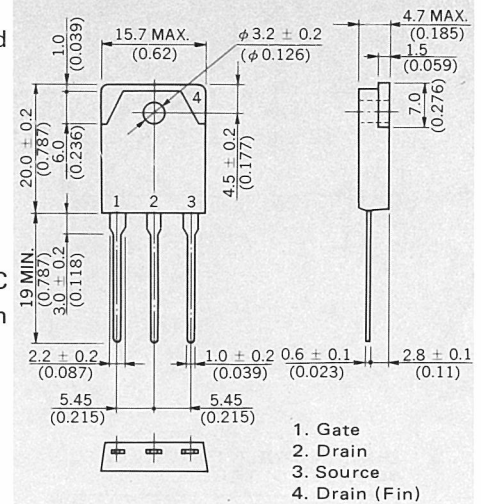
ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures			
Storage Temperature	.....	-55 to +150 °C	
Channel Temperature	.....	150 °C Maximum	
Maximum Power Dissipation ($T_C = 25\text{ °C}$)			
Total Power Dissipation	.....	150	W
Maximum Voltages and Currents ($T_a = 25\text{ °C}$)			
V_{DSS}	Drain to Source Voltage	.....	900 V
V_{GSS}	Gate to Source Voltage	.....	±20 V
$I_{D(DC)}$	Drain Current (DC)	.....	±8 A
$I_{D(pulse)}$	Drain Current (pulse)*	.....	±16 A

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

PACKAGE DIMENSIONS

in millimeters (inches)

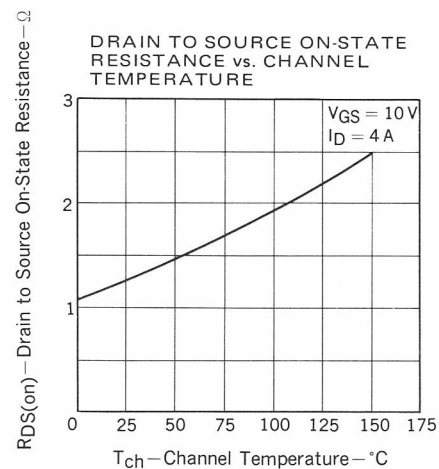
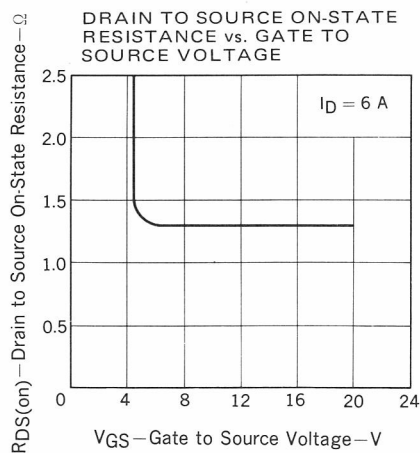
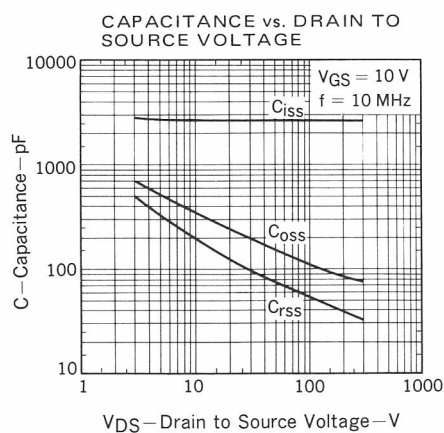
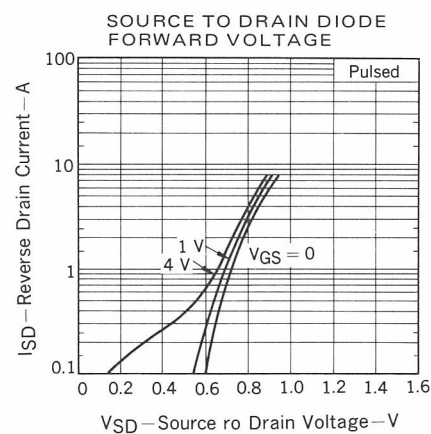
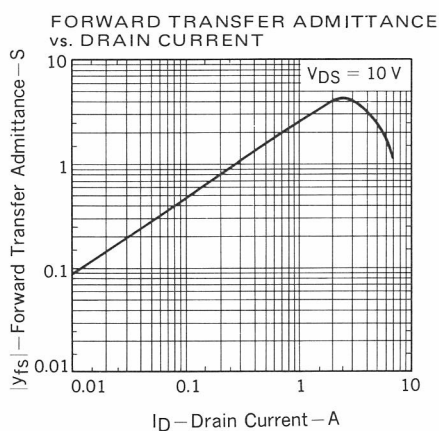
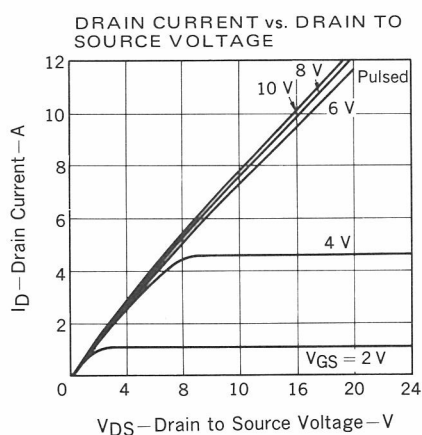
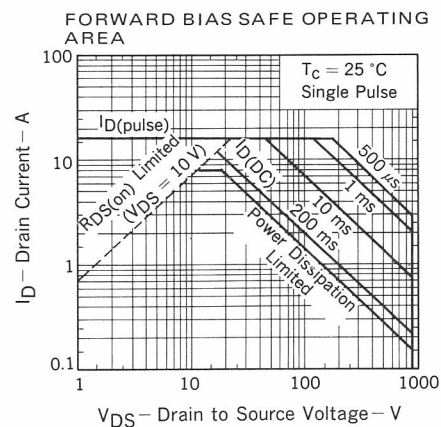
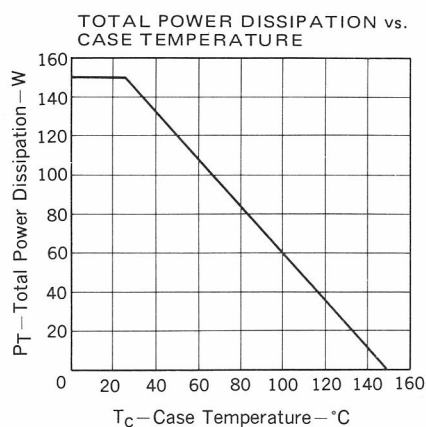
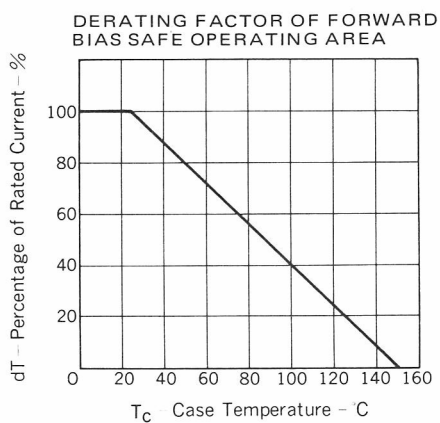


ELECTRICAL CHARACTERISTICS ($T_a = 25\text{ °C}$)

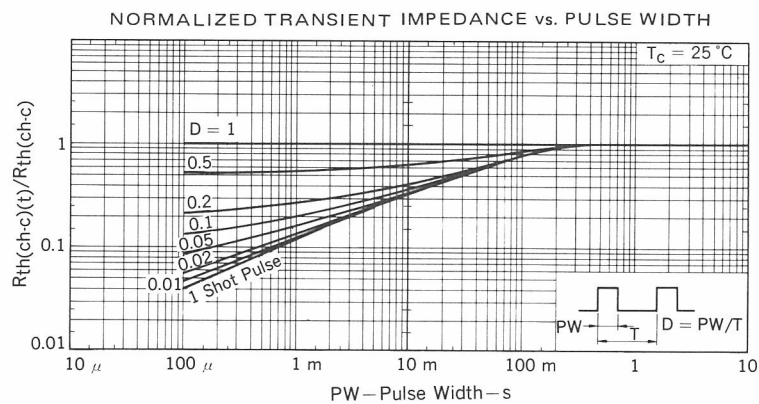
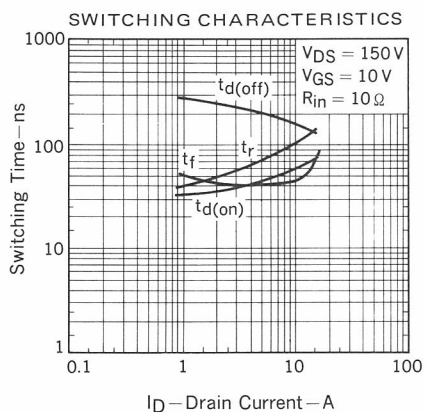
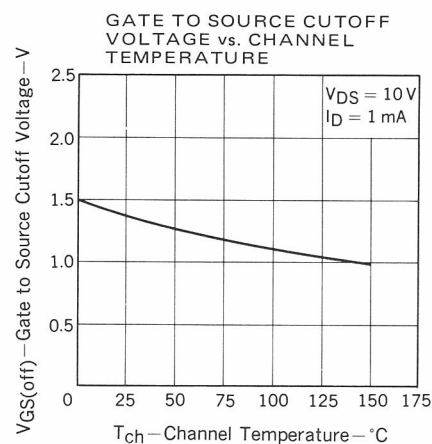
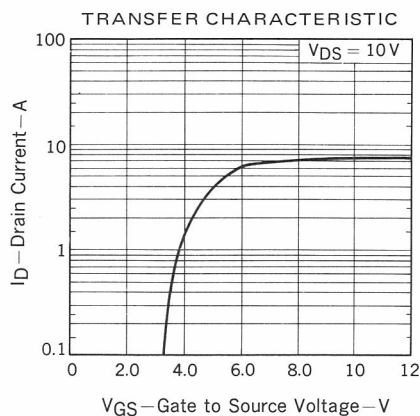
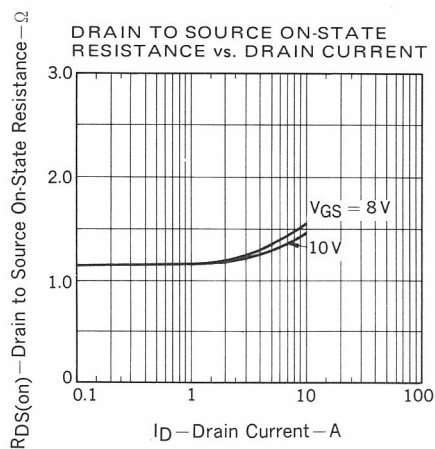
SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
I_{DSS}	Drain Leakage Current			100	μA	$V_{DS} = 900\text{ V}$, $V_{GS} = 0$
I_{GSS}	Gate to Source Leakage Current			±100	nA	$V_{GS} = \pm 20\text{ V}$, $V_{DS} = 0$
$V_{GS(off)}$	Gate to Source Cutoff Voltage	1.5		3.5	V	$V_{DS} = 10\text{ V}$, $I_D = 1\text{ mA}$
$|Y_{fs}|$	Forward Transfer Admittance	1.0			S	$V_{DS} = 10\text{ V}$, $I_D = 4\text{ A}$
$R_{DS(on)}$	Drain to Source On-State Resistance		1.25	1.6	Ω	$V_{GS} = 10\text{ V}$, $I_D = 4\text{ A}$
C_{iss}	Input Capacitance		2500		pF	$V_{DS} = 10\text{ V}$, $V_{GS} = 0$, $f = 1\text{ MHz}$
C_{oss}	Output Capacitance		400		pF	
C_{rss}	Reverse Transfer Capacitance		200		pF	
$t_{d(on)}$	Turn-On Delay Time		40		ns	$I_D = 4\text{ A}$, $V_{CC} \doteq 150\text{ V}$ $V_{GS(on)} = 10\text{ V}$ $R_L = 37.5\text{ }\Omega$ $R_{in} = 10\text{ }\Omega$
t_r	Rise Time		55		ns	
$t_{d(off)}$	Turn-Off Delay Time		200		ns	
t_f	Fall Time		40		ns	

Phase-out/Discontinued

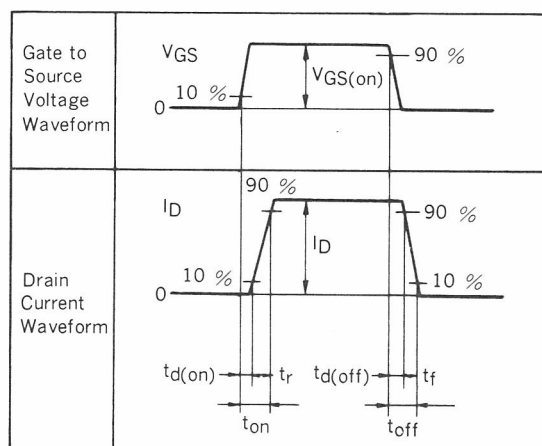
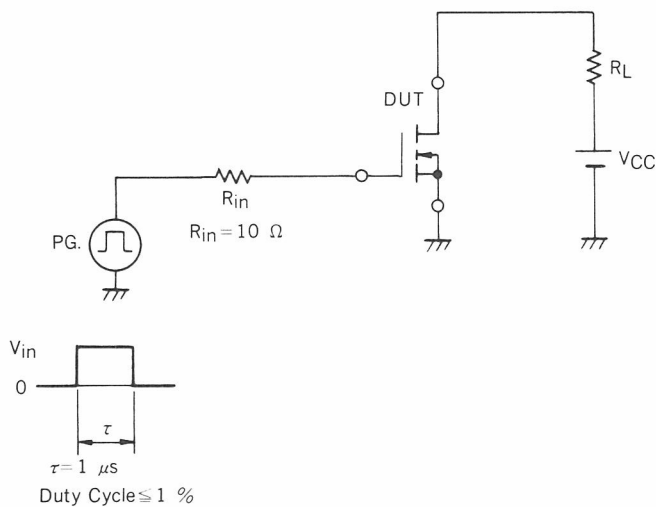
TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)



Phase-out/Discontinued



SWITCHING TIME TEST CIRCUIT



Phase-out/Discontinued**NEC HONG KONG Limited**

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