

To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

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

April 1st, 2010
Renesas Electronics Corporation

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

Send any inquiries to <http://www.renesas.com/inquiry>.

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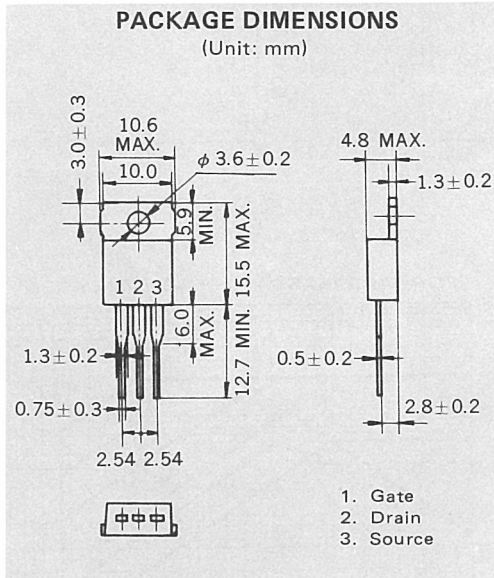
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Phase-out/Discontinued

2SK482

FAST SWITCHING N-CHANNEL SILICON POWER MOS FET INDUSTRIAL USE



FEATURES

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

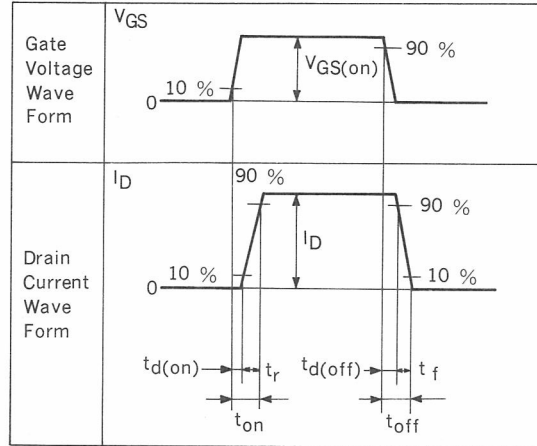
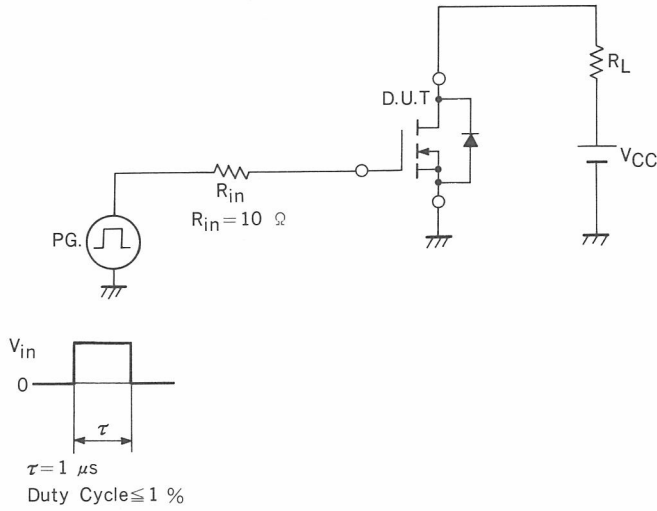
ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

Drain to Source Voltage	V_{DS}	450	V
Gate to Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	$I_{D(DC)}$	± 5	A
Total Power Dissipation	P_T	40	W
Channel Temperature	T_{ch}	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

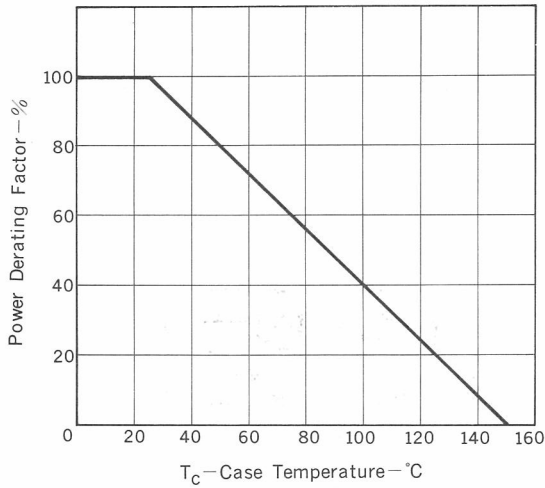
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Drain Leakage Current	I_{DSS}			100	μA	$V_{DS} = 450\text{ V}, V_{GS} = 0$
Gate to Source Leakage Current	I_{GSS}			± 100	nA	$V_{GS} = \pm 20\text{ V}, V_{DS} = 0$
Gate to Source Cutoff Voltage	$V_{GS(off)}$	1		5	V	$V_{DS} = 10\text{ V}, I_D = 1\text{ mA}$
Forward Transfer Admittance	$ y_{fs} $	1			S	$V_{DS} = 10\text{ V}, I_D = 2\text{ A}$
Drain to Source On-State Resistance	$R_{DS(on)}$			2	Ω	$V_{GS} = 10\text{ V}, I_D = 2\text{ A}$
Input Capacitance	C_{iss}		600		pF	$V_{DS} = 10\text{ V}, V_{GS} = 0$ $f = 1\text{ MHz}$
Output Capacitance	C_{oss}		150		pF	
Reverse Transfer Capacitance	C_{rss}		30		pF	
Turn-On Delay Time	$t_{d(on)}$		10		ns	$I_D = 2\text{ A}, V_{CC} \cong 150\text{ V}$ $V_{GS(on)} = 10\text{ V}$ $R_L = 75\ \Omega,$ $R_{in} = 10\ \Omega$
Rise Time	t_r		25		ns	
Turn-Off Delay Time	$t_{d(off)}$		25		ns	
Fall Time	t_f		10		ns	

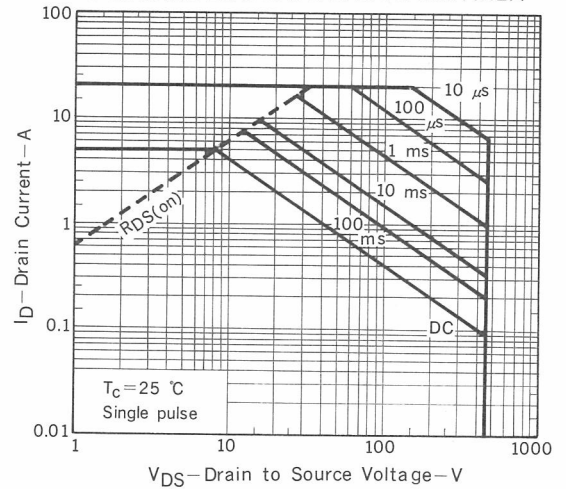
TURN-ON AND TURN-OFF TIME TEST CIRCUIT



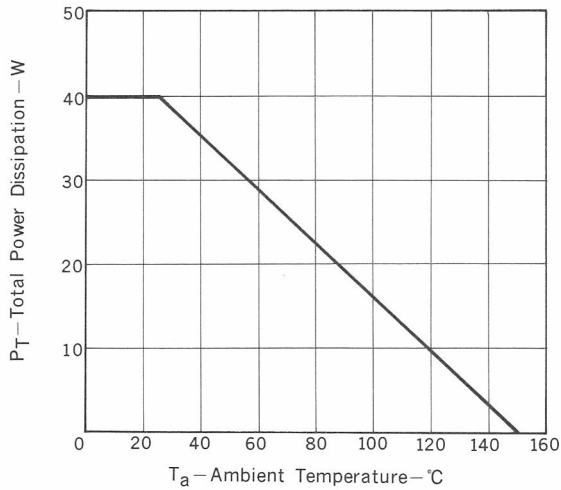
DERATING FACTOR OF FORWARD BIAS SAFE OPERATING AREA



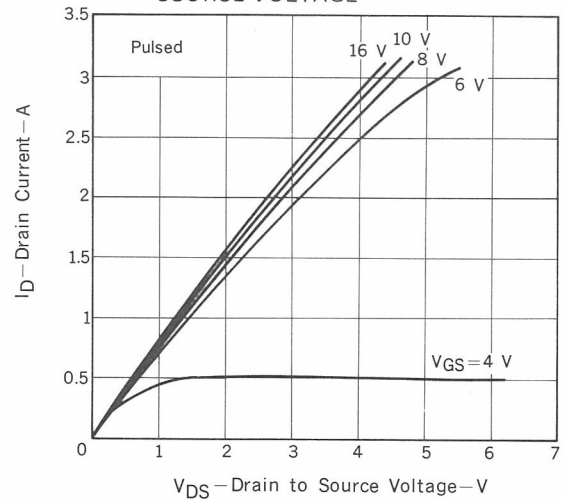
FORWARD BIAS SAFE OPERATING AREA



TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE

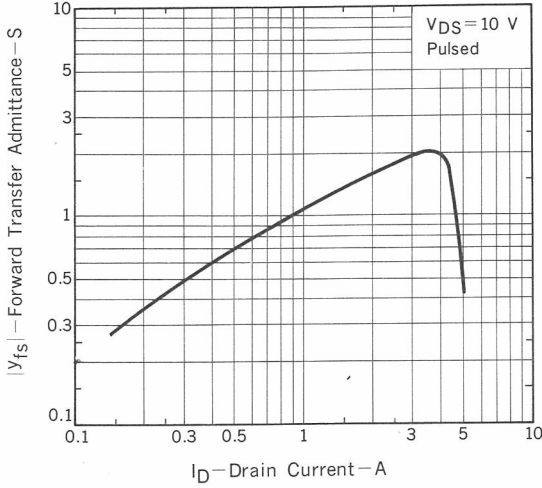


DRAIN CURRENT vs. DRAIN TO SOURCE VOLTAGE

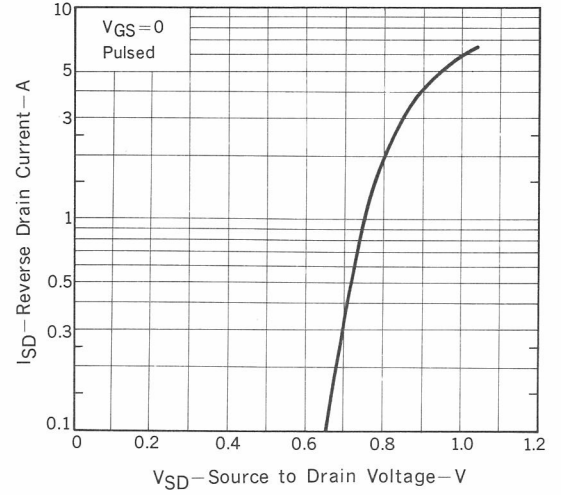


Phase-out/Discontinued

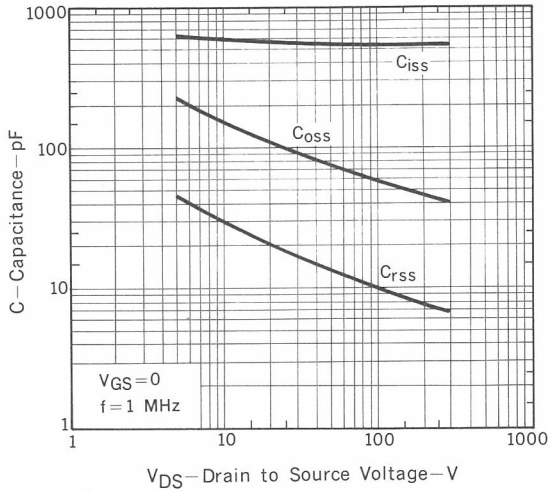
FORWARD TRANSFER ADMITTANCE vs. DRAIN CURRENT



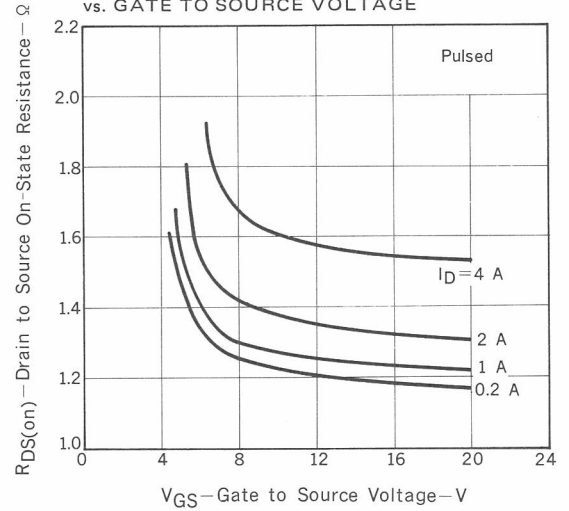
SOURCE TO DRAIN DIODE FORWARD VOLTAGE



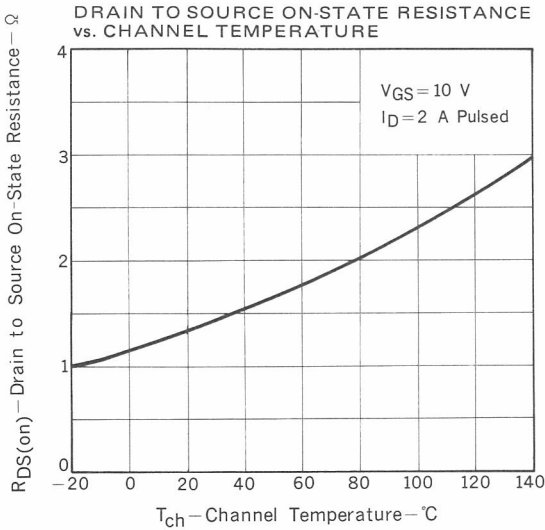
CAPACITANCE vs. DRAIN TO SOURCE VOLTAGE



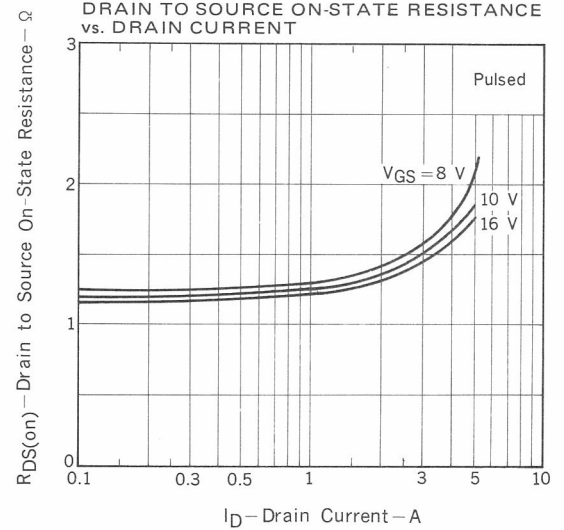
DRAIN TO SOURCE ON-STATE RESISTANCE vs. GATE TO SOURCE VOLTAGE

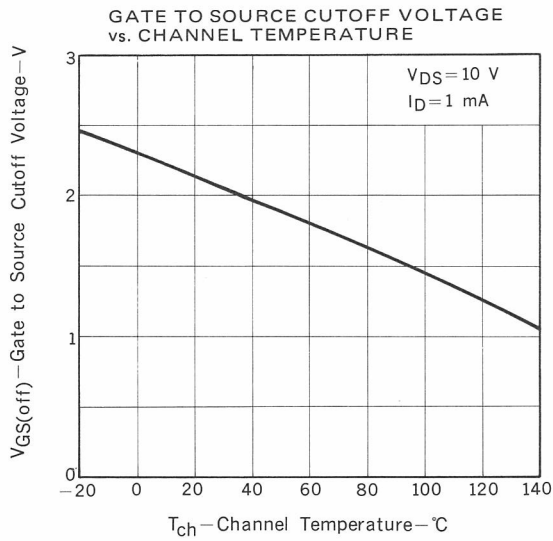
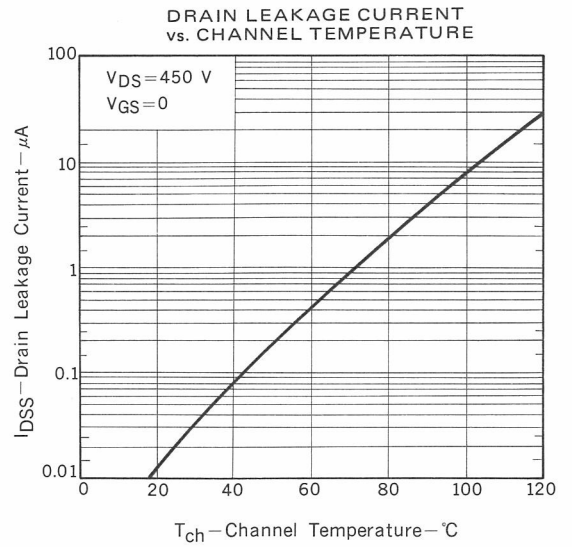
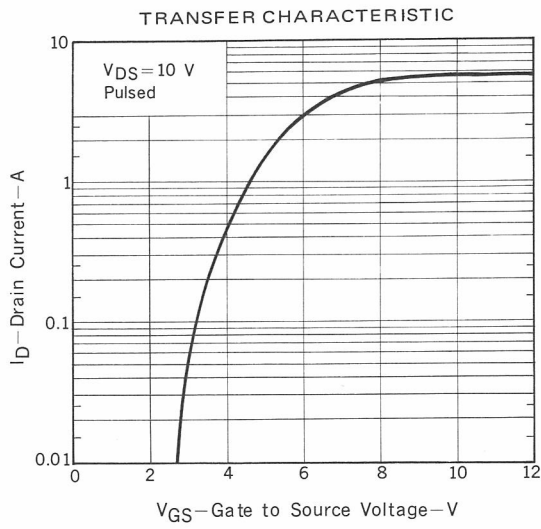


DRAIN TO SOURCE ON-STATE RESISTANCE vs. CHANNEL TEMPERATURE



DRAIN TO SOURCE ON-STATE RESISTANCE vs. DRAIN CURRENT





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