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)

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RENESAS

MOS FIELD EFFECT TRANSISTOR

μPA573T

P-CHANNEL MOSFET (5-PIN 2 CIRCUITS) FOR SWITCHING

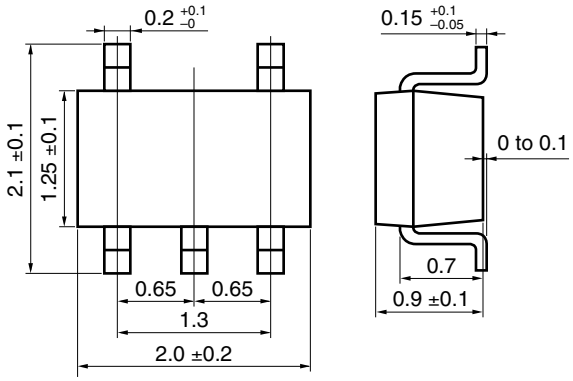
DESCRIPTION

The μPA573T is a super-mini-mold device provided with two MOS FET circuits. It achieves high-density mounting and saves mounting costs.

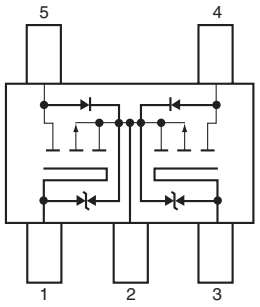
FEATURES

- Two source common MOS FET circuits in package the same size as SC-70
- Directly driven by ICs having a 3 V power supply
- Automatic mounting supported

PACKAGE DIMENSIONS (in millimeters)



<R> EQUIVALENT CIRCUIT



PIN CONNECTION

1. Gate1 (G1)
2. Source (common)
3. Gate2 (G2)
4. Drain2 (D2)
5. Drain1 (D1)

Marking: CB

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C)

PARAMETER	SYMBOL	TEST CONDITIONS	RATINGS	UNIT
Drain to Source Voltage	V_{DSS}	V_{GS} = 0 V	–30	V
Gate to Source Voltage	V_{GSS}	V_{DS} = 0 V	∓7	V
Drain Current (DC)	$I_{D(DC)}$		∓100	mA
Drain Current (pulse)	$I_{D(pulse)}$	PW ≤ 10 ms, Duty Cycle ≤ 50 %	∓200	mA
Total Power Dissipation	P_T		200 (Total)	mW
Channel Temperature	T_{ch}		150	°C
Storage Temperature	T_{stg}		–55 to +150	°C

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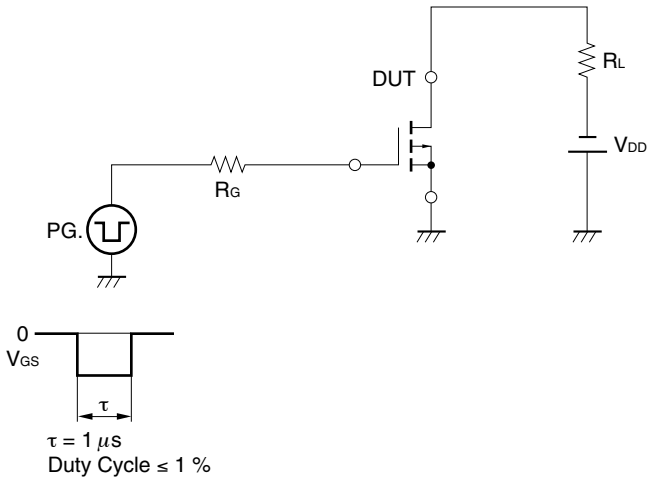
Date Published April 2007 N CP(K)
Printed in Japan

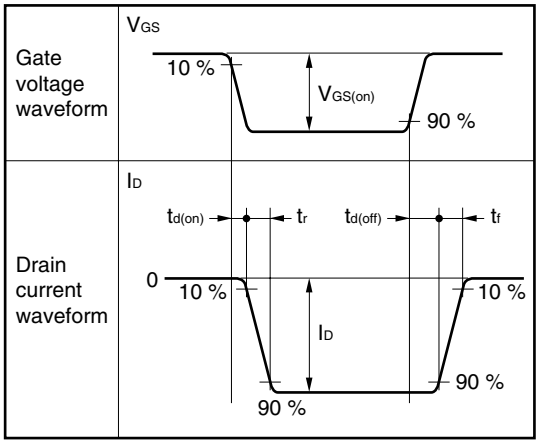
The mark <R> shows major revised points.
The revised points can be easily searched by copying an "<R>" in the PDF file and specifying it in the "Find what." field.

ELECTRICAL CHARACTERISTICS (T_A = 25 °C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Drain Cut-off Current	I_{DSS}	V_{DS} = –30 V, V_{GS} = 0			–1.0	μA
Gate Leakage Current	I_{GSS}	V_{GS} = ∓5 V, V_{DS} = 0			∓3.0	μA
Gate Cut-off Voltage	$V_{GS(off)}$	V_{DS} = –3 V, I_D = –10 μA	–1.6	–1.9	–2.3	V
Forward Transfer Admittance	$\|y_{fs}\|$	V_{DS} = –3 V, I_D = –10 mA	20	30		S
Drain to Source On-State Resistance	$R_{DS(on)1}$	V_{GS} = –2.5 V, I_D = –1 mA		55	100	Ω
Drain to Source On-State Resistance	$R_{DS(on)2}$	V_{GS} = –4.0 V, I_D = –10 mA		20	25	Ω
Input Capacitance	C_{iss}	V_{DS} = –5.0 V, V_{GS} = 0, f = 1 MHz		16		pF
Output Capacitance	C_{oss}			13		pF
Reverse Transfer Capacitance	C_{rss}			2		pF
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = – 5 V, I_D = –10 mA, V_{GS} = –5 V, R_G = 10 Ω		10		ns
Rise Time	t_r			40		ns
Turn-Off Delay Time	$t_{d(off)}$			130		ns
Fall Time	t_f			80		ns

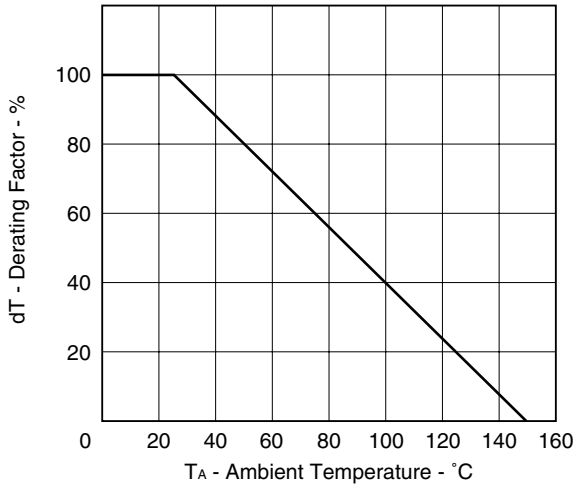
SWITCHING TIME MEASUREMENT CIRCUIT AND CONDITIONS



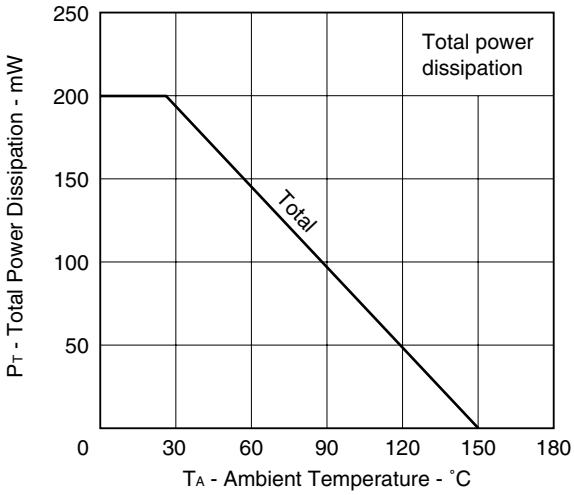


TYPICAL CHARACTERISTICS (T_A = 25 ˚C)

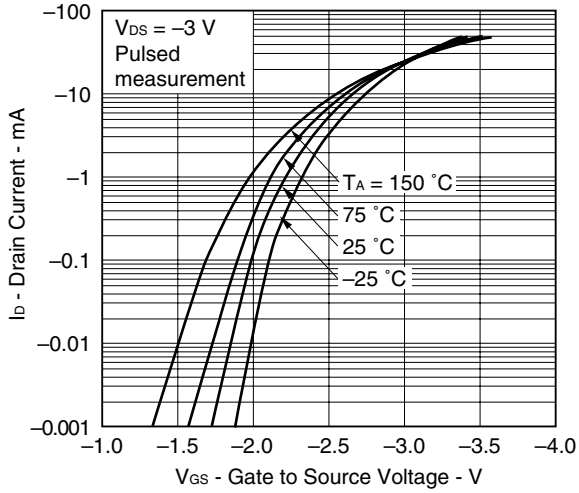
DERATING FACTOR OF FORWARD BIAS SAFE OPERATING AREA



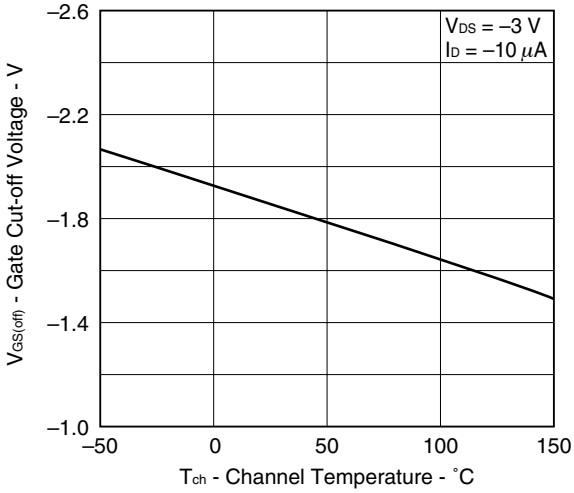
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



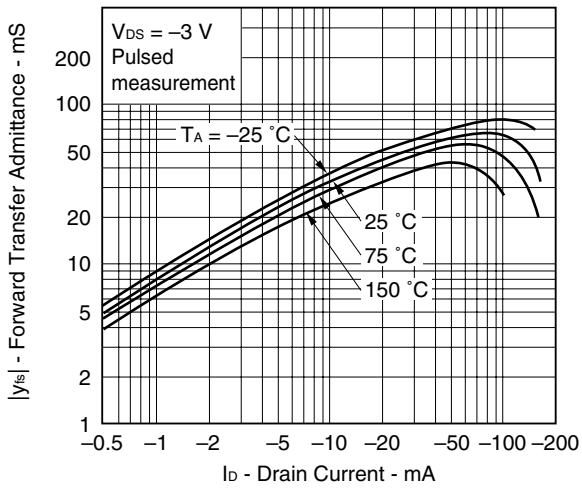
TRANSFER CHARACTERISTICS



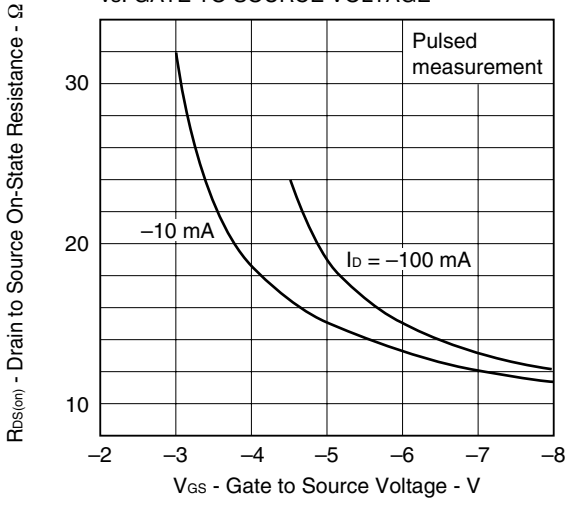
GATE TO SOURCE CUTOFF VOLTAGE vs. CHANNEL TEMPERATURE



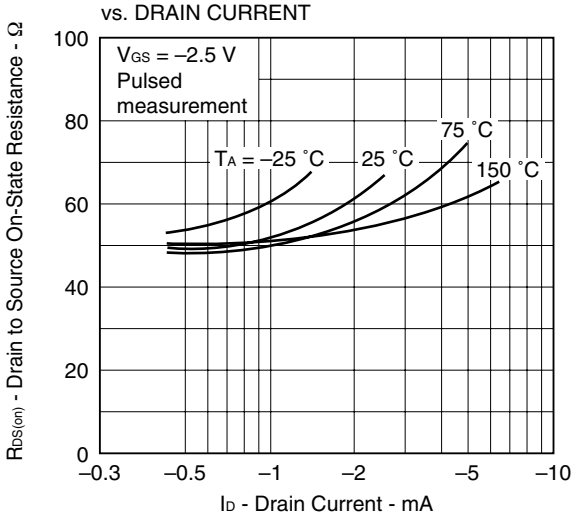
FORWARD TRANSFER ADMITTANCE vs. DRAIN CURRENT



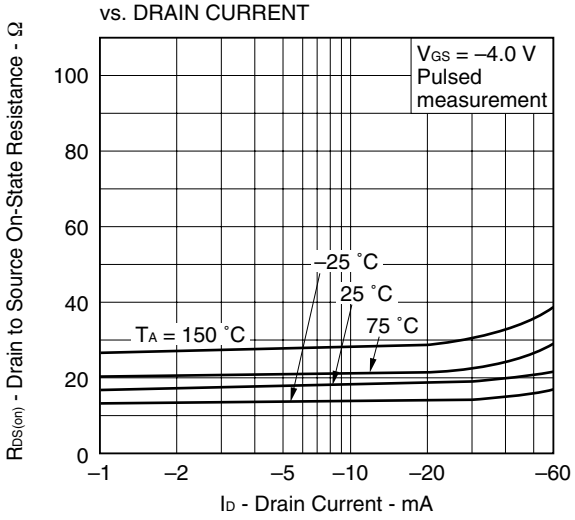
DRAIN TO SOURCE ON-STATE RESISTANCE vs. GATE TO SOURCE VOLTAGE



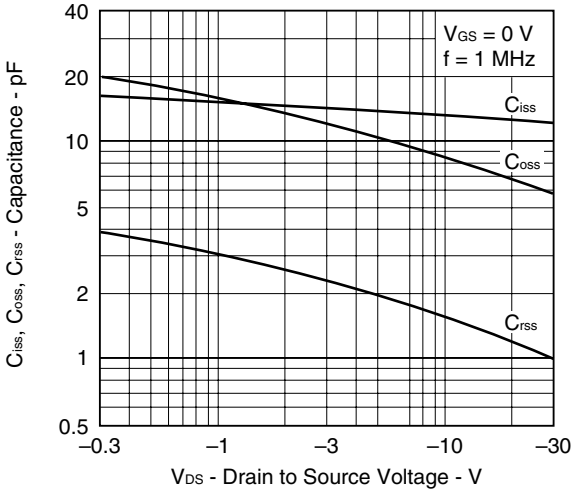
DRAIN TO SOURCE ON-STATE RESISTANCE vs. DRAIN CURRENT



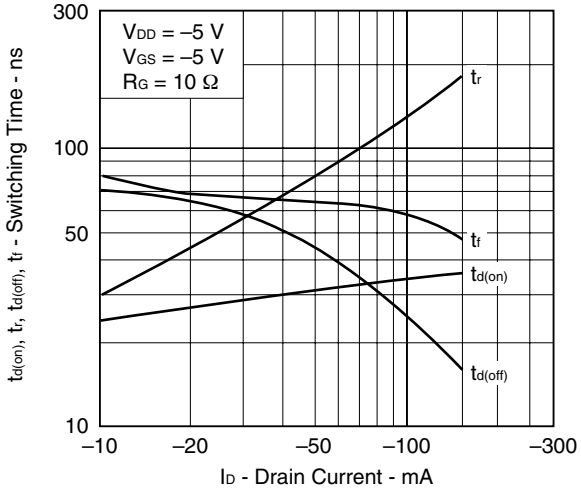
DRAIN TO SOURCE ON-STATE RESISTANCE vs. DRAIN CURRENT



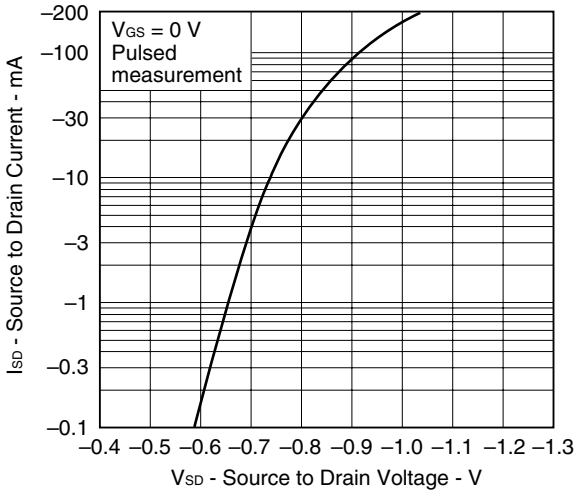
CAPACITANCE vs. DRAIN TO SOURCE VOLTAGE



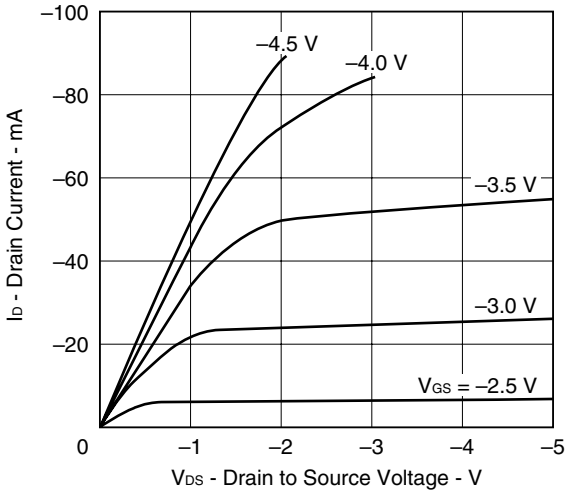
SWITCHING CHARACTERISTICS



SOURCE TO DRAIN DIODE FORWARD VOLTAGE



DRAIN CURRENT vs. DRAIN TO SOURCE VOLTAGE



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