

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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Not recommended
for new design

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2SD1974

Silicon NPN Epitaxial

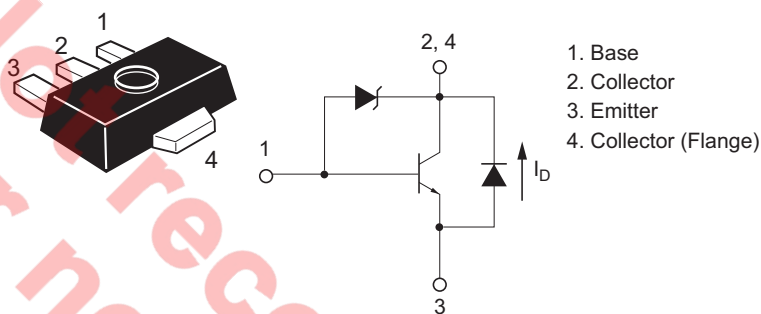
REJ03G0797-0200
 (Previous ADE-208-1161)
 Rev.2.00
 Aug.10.2005

Application

Low frequency power amplifier

Outline

RENESAS Package code: PLZZ0004CA-A
 (Package name: UPAK[®])



Note: Marking is "ES".

*UPAK is a trademark of Renesas Technology Corp.

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	25	V
Collector to emitter voltage	V_{CEO}	25	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	0.8	A
Collector peak current	$i_{C (peak)}$	1.5	A
E to C diode forward current	I_D	0.6	A
Collector power dissipation	P_C^{*1}	1.0	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Note: 1. Value on the alumina ceramic board (12.5 x 20 x 0.7 mm)

Electrical Characteristics

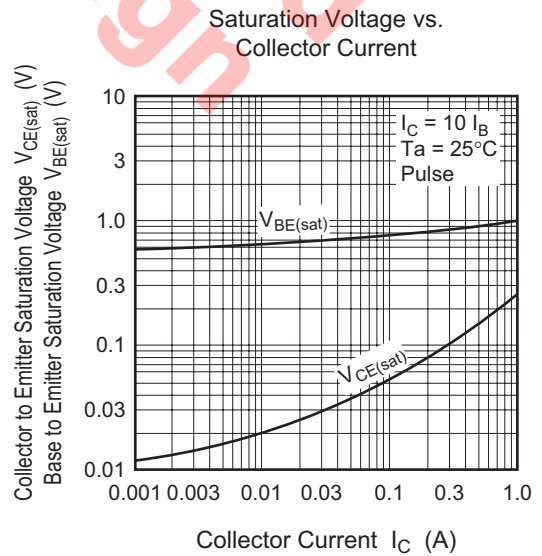
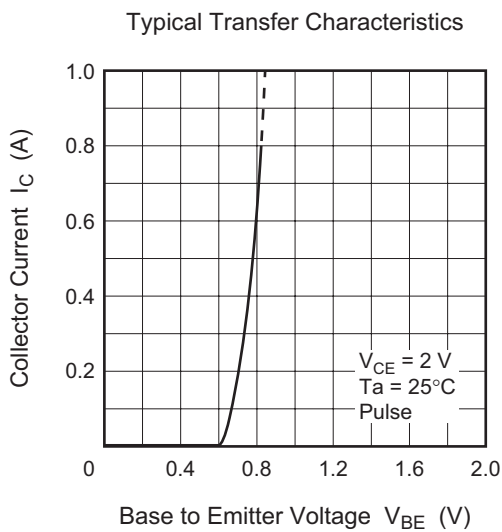
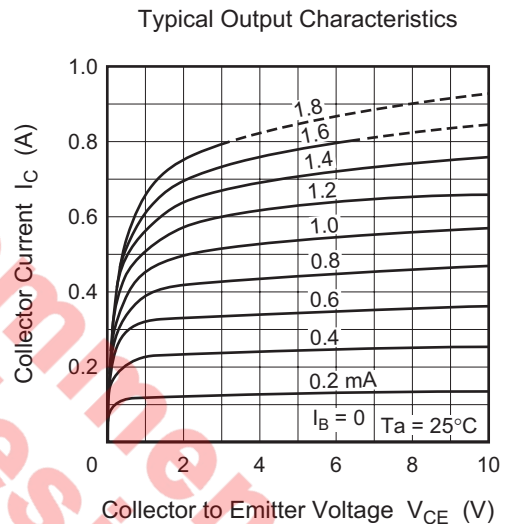
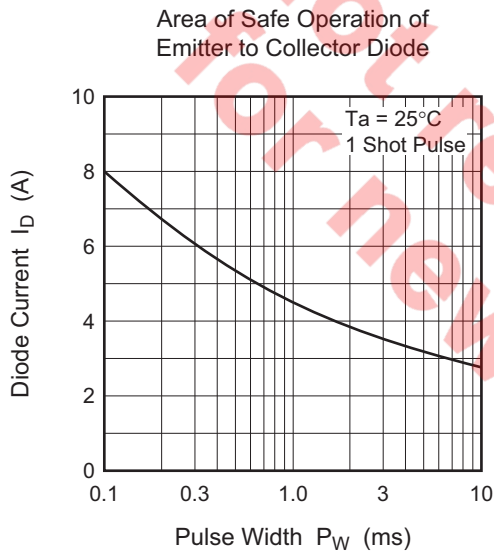
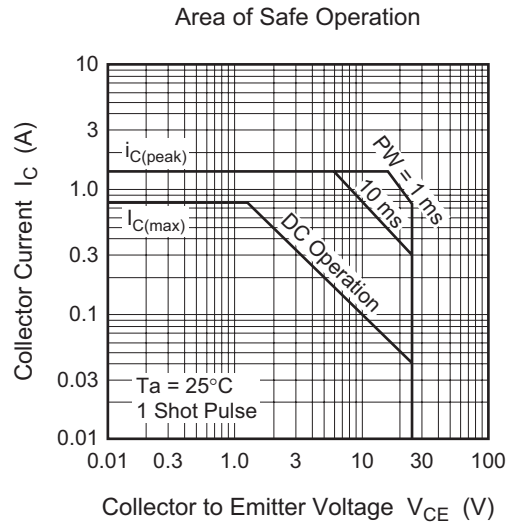
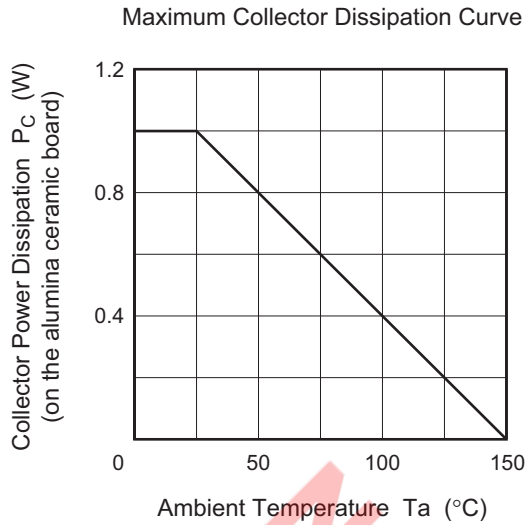
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	25	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	25	—	35	V	$I_C = 1 mA, R_{BE} = \infty$
Collector to emitter sustaining voltage	$V_{CEO(sus)}$	25	—	35	V	$I_C = 0.8 A, R_{BE} = \infty,$ $L = 20 mH$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	0.2	μA	$V_{CB} = 20 V, I_E = 0$
	I_{CEO}	—	—	0.5	μA	$V_{CE} = 20 V, R_{BE} = \infty$
Emitter cutoff current	I_{EBO}	—	—	0.2	μA	$V_{EB} = 5 V, I_C = 0$
DC current transfer ratio	h_{FE}	250	—	1200		$V_{CE} = 2 V, I_C = 0.1 A^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.4	V	$I_C = 0.8 A, I_B = 80 mA^{*1}$
E to C diode forward voltage	V_D	—	—	1.5	V	$I_D = 0.6 A^{*1}$

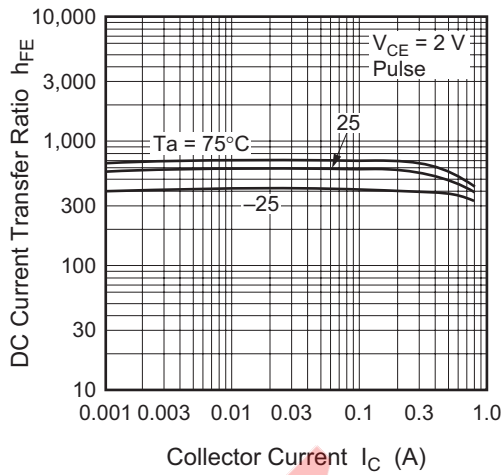
Notes: 1. Pulse test

Not recommend
for new design

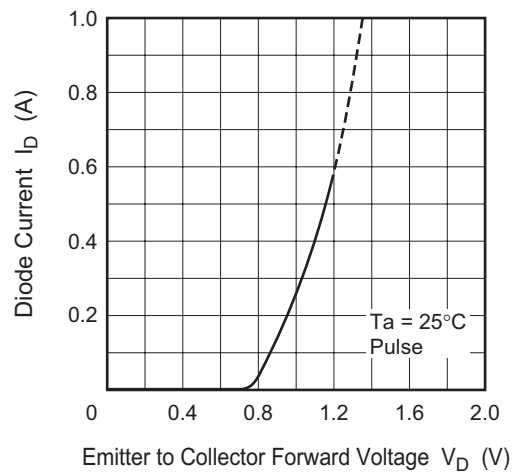
Main Characteristics



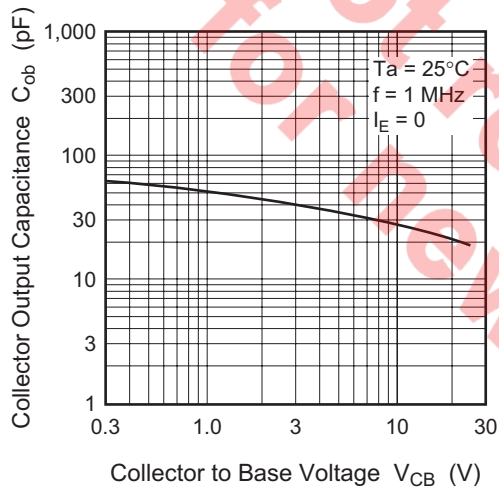
DC Current Transfer Ratio vs. Collector Current



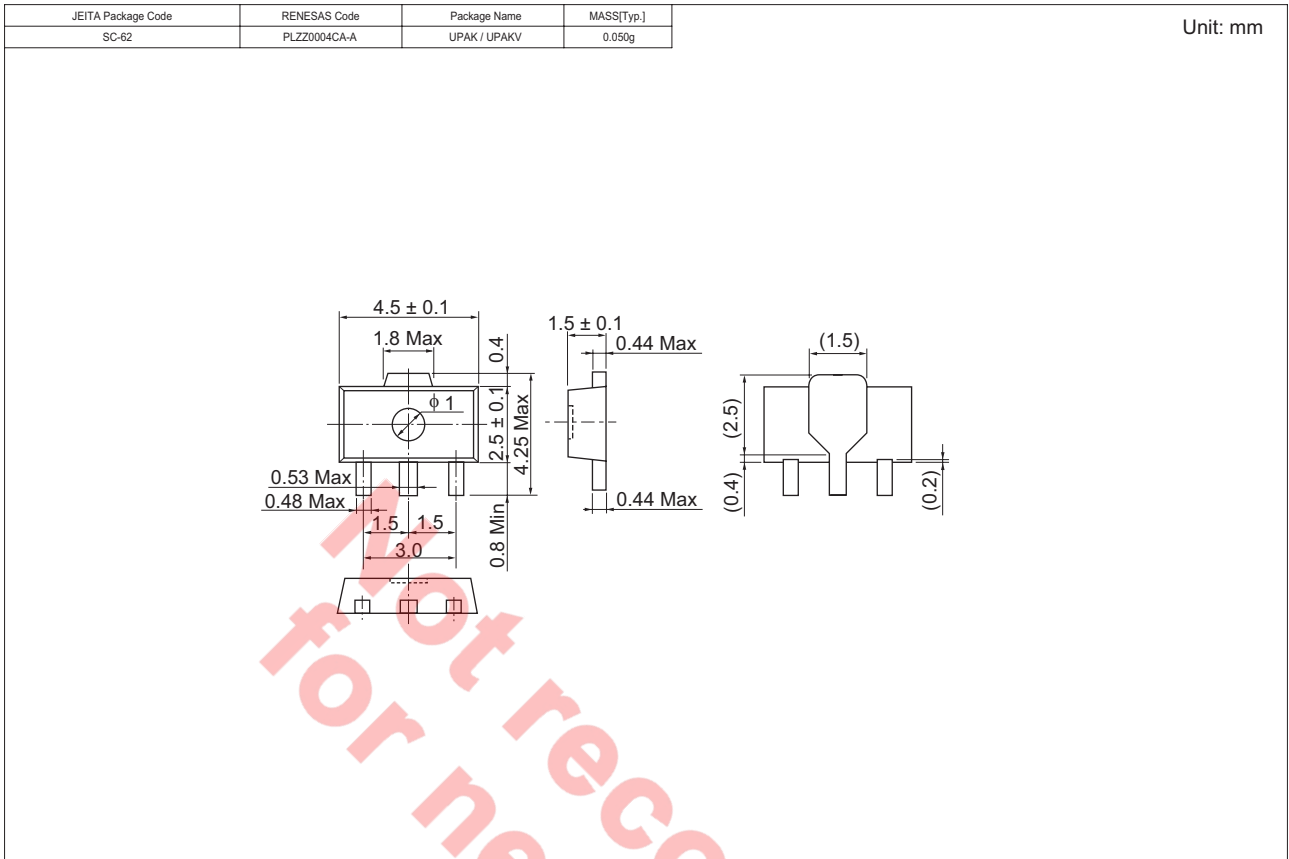
Typical Characteristics of Emitter to Collector Diode



Collector Output Capacitance vs. Collector to Base Voltage



Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SD1974ESTL-E	1000	φ 178 mm Reel, 12 mm Emboss Taping

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