

## 2SD1974

Silicon NPN Epitaxial

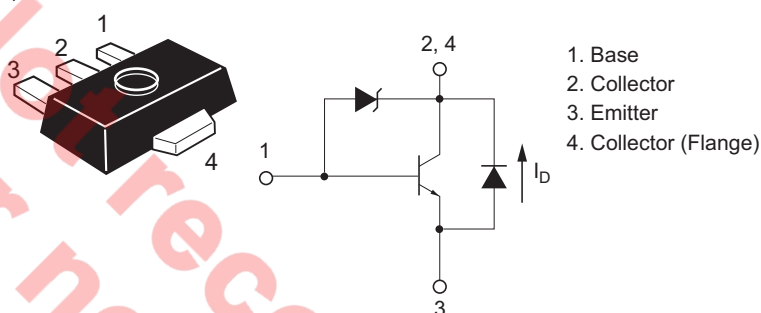
REJ03G0797-0200  
 (Previous ADE-208-1161)  
 Rev.2.00  
 Aug.10.2005

### Application

Low frequency power amplifier

### Outline

RENESAS Package code: PLZZ0004CA-A  
 (Package name: UPAK<sup>®</sup>)



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	$i_{C(\text{peak})}$	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

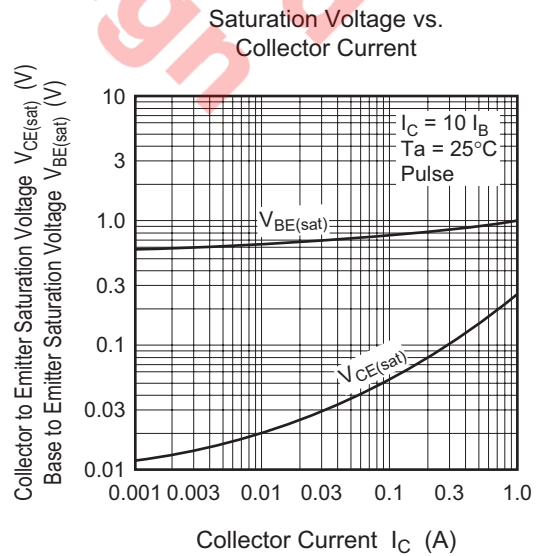
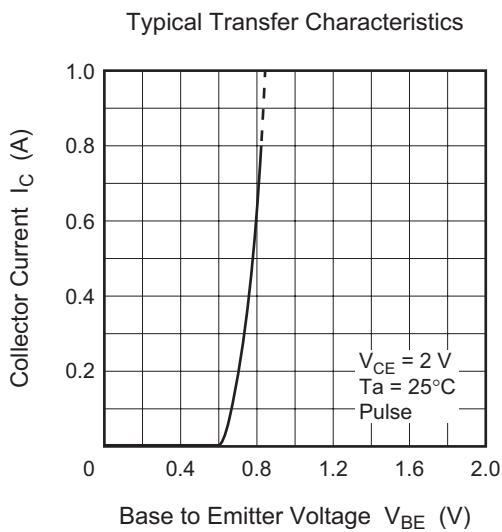
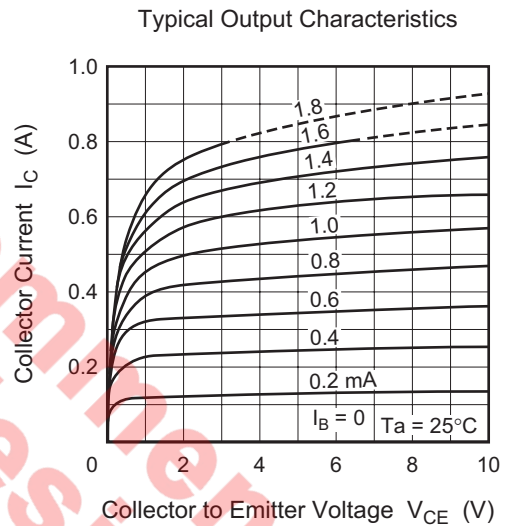
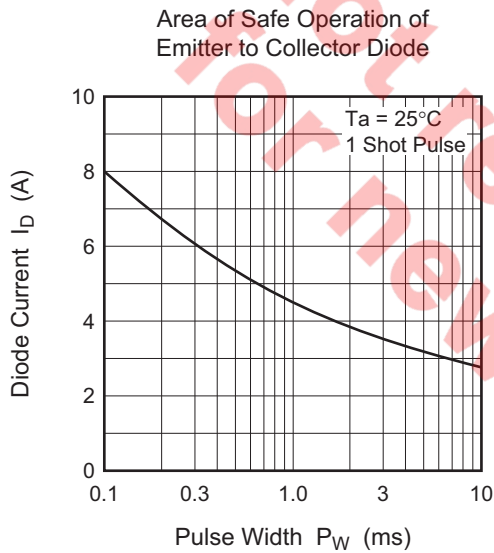
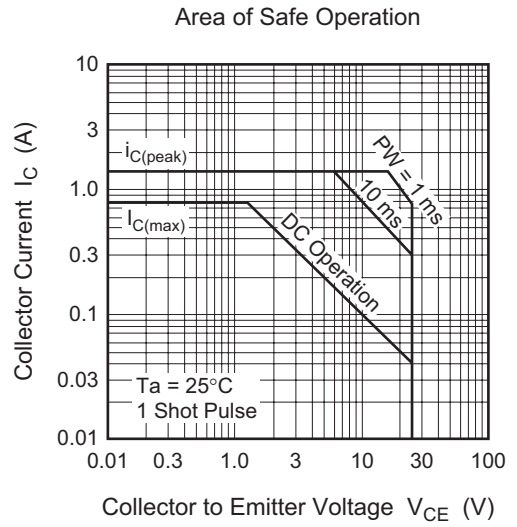
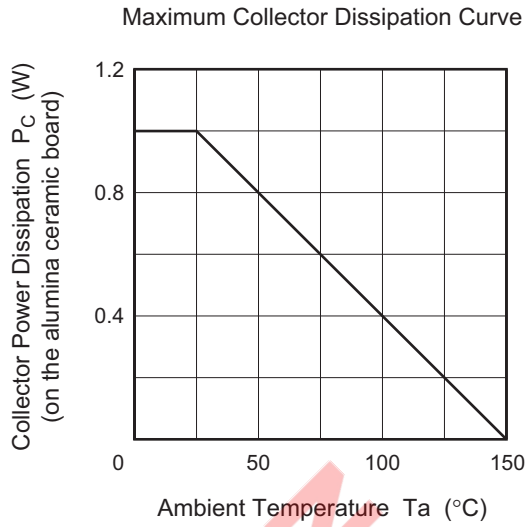
(Ta = 25°C)

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

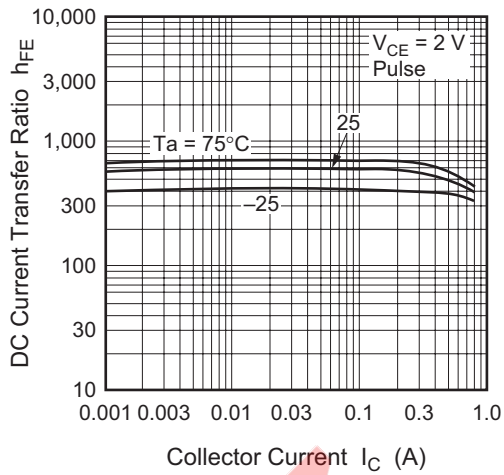
Notes: 1. Pulse test

Not recommend  
for new design

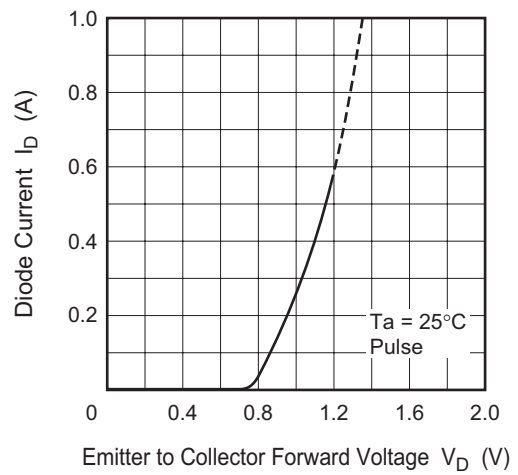
Main Characteristics



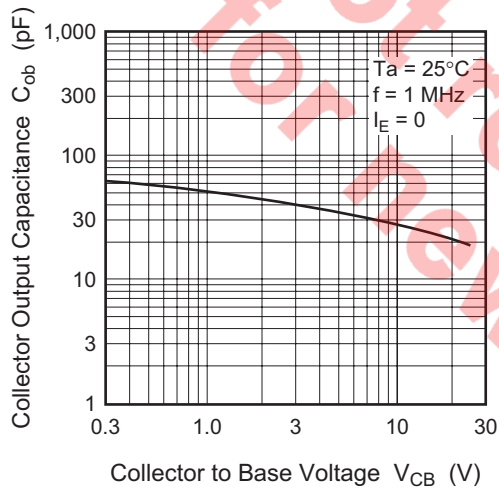
DC Current Transfer Ratio vs. Collector Current



Typical Characteristics of Emitter to Collector Diode

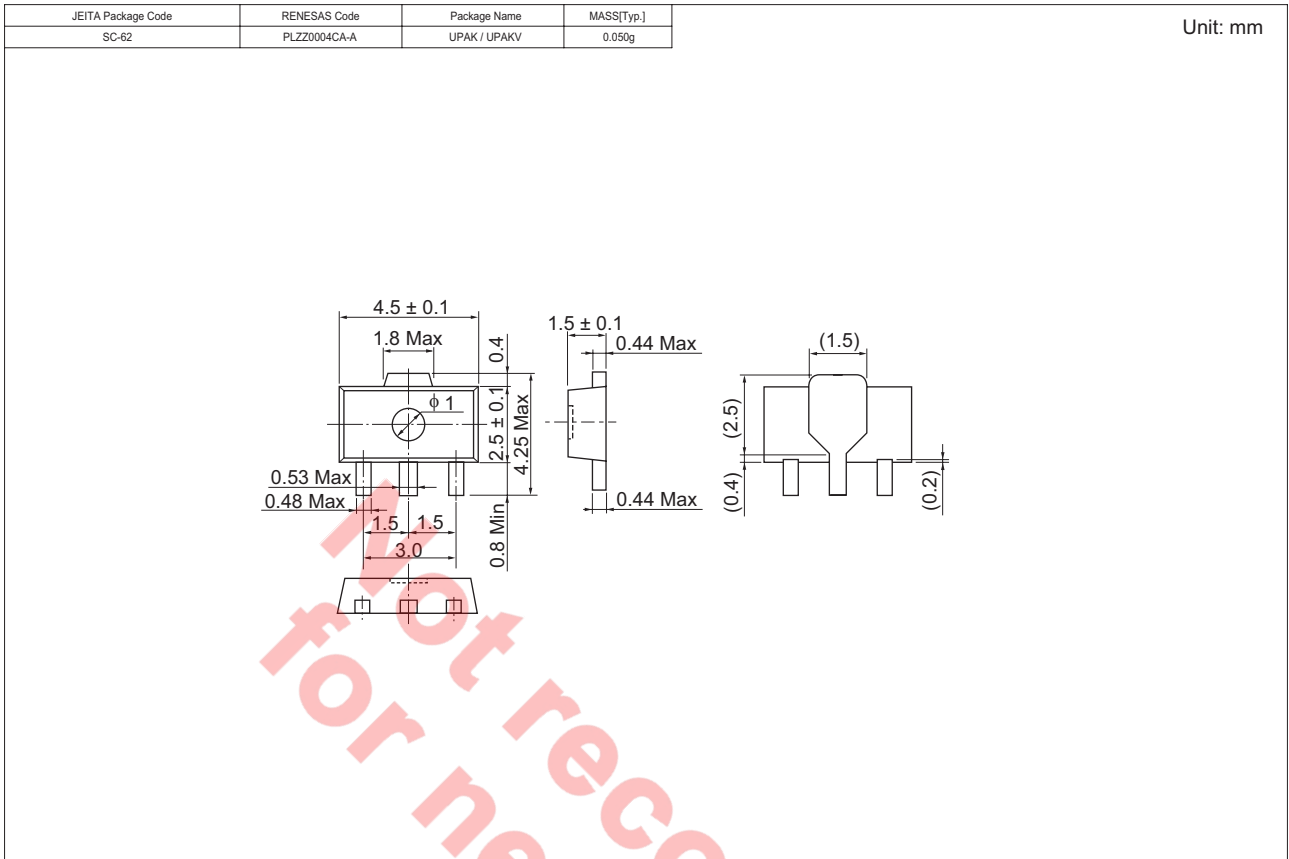


Collector Output Capacitance vs. Collector to Base Voltage



NOT RECOMMENDED FOR NEW DESIGN

### Package Dimensions



### Ordering Information

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

Note: For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.

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