

2SC1213, 2SC1213A

R07DS0431EJ0300
(Previous: REJ03G0684-0200)

Silicon NPN Epitaxial

Rev.3.00

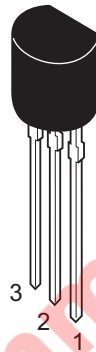
Jun 07, 2011

Application

- Low frequency amplifier
- Complementary pair with 2SA673 and 2SA673A

Outline

RENESAS Package code: PRSS0003DA-A
(Package name: TO-92 (1))



1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	2SC1213	2SC1213A	Unit
Collector to base voltage	V_{CBO}	35	50	V
Collector to emitter voltage	V_{CEO}	35	50	V
Emitter to base voltage	V_{EBO}	4	4	V
Collector current	I_C	500	500	mA
Collector power dissipation	P_C	400	400	mW
Junction temperature	T_j	150	150	°C
Storage temperature	T_{stg}	-55 to +150	-55 to +150	°C

Electrical Characteristics

(Ta = 25°C)

Item	Symbol	2SC1213			2SC1213A			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	$V_{(BR)CBO}$	35	—	—	50	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	35	—	—	50	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	4	—	—	4	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	0.5	—	—	0.5	μA	$V_{CB} = 20 \text{ V}, I_E = 0$
DC current transfer ratio	h_{FE}^{*1}	60	—	320	60	—	320		$V_{CE} = 3 \text{ V}, I_C = 10 \text{ mA}$
	h_{FE}	10	—	—	10	—	—		$V_{CE} = 3 \text{ V}, I_C = 500 \text{ mA}^{*2}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	0.2	0.6	—	0.2	0.6	V	$I_C = 150 \text{ mA}, I_B = 15 \text{ mA}^{*2}$
Base to emitter voltage	V_{BE}	—	0.64	—	—	0.64	—	V	$V_{CE} = 3 \text{ V}, I_C = 10 \text{ mA}$

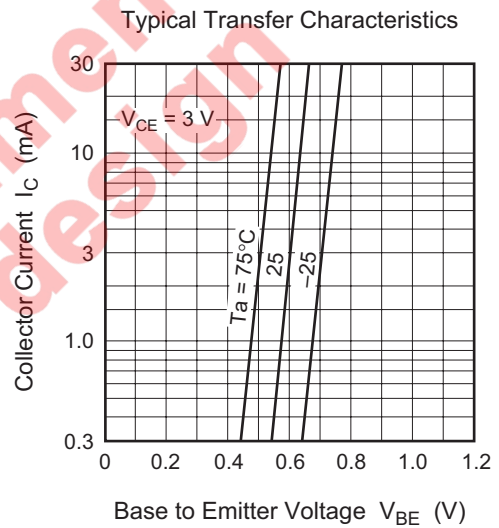
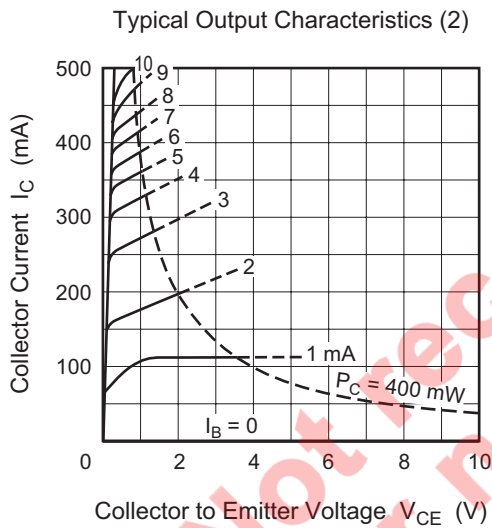
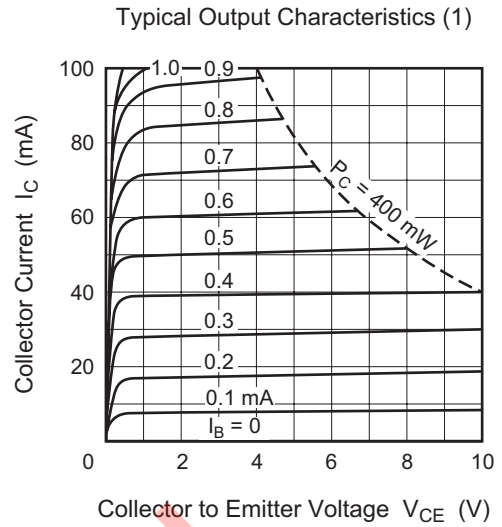
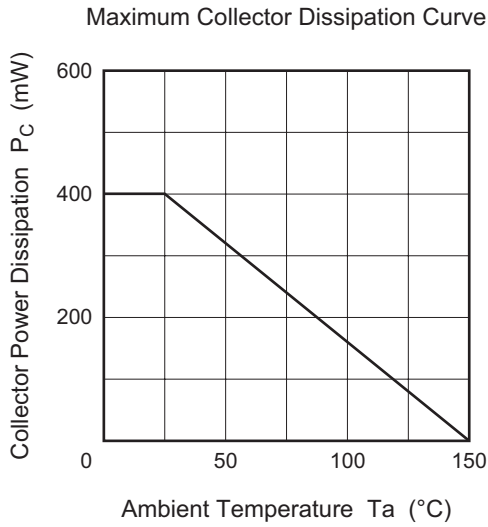
Notes: 1. The 2SC1213 and 2SC1213A are grouped by h_{FE} as follows.

2. Pulse test

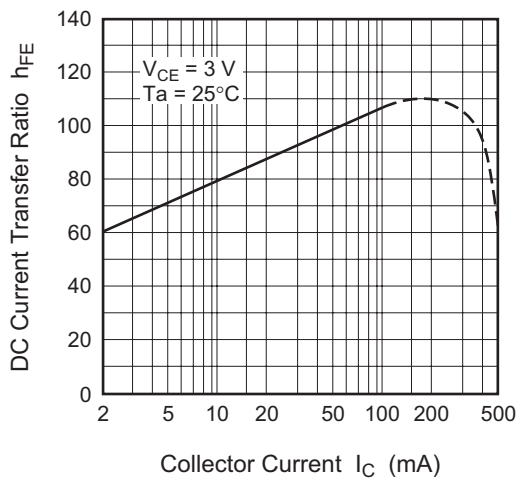
B	C	D
60 to 120	100 to 200	160 to 320

Not recommended for new design

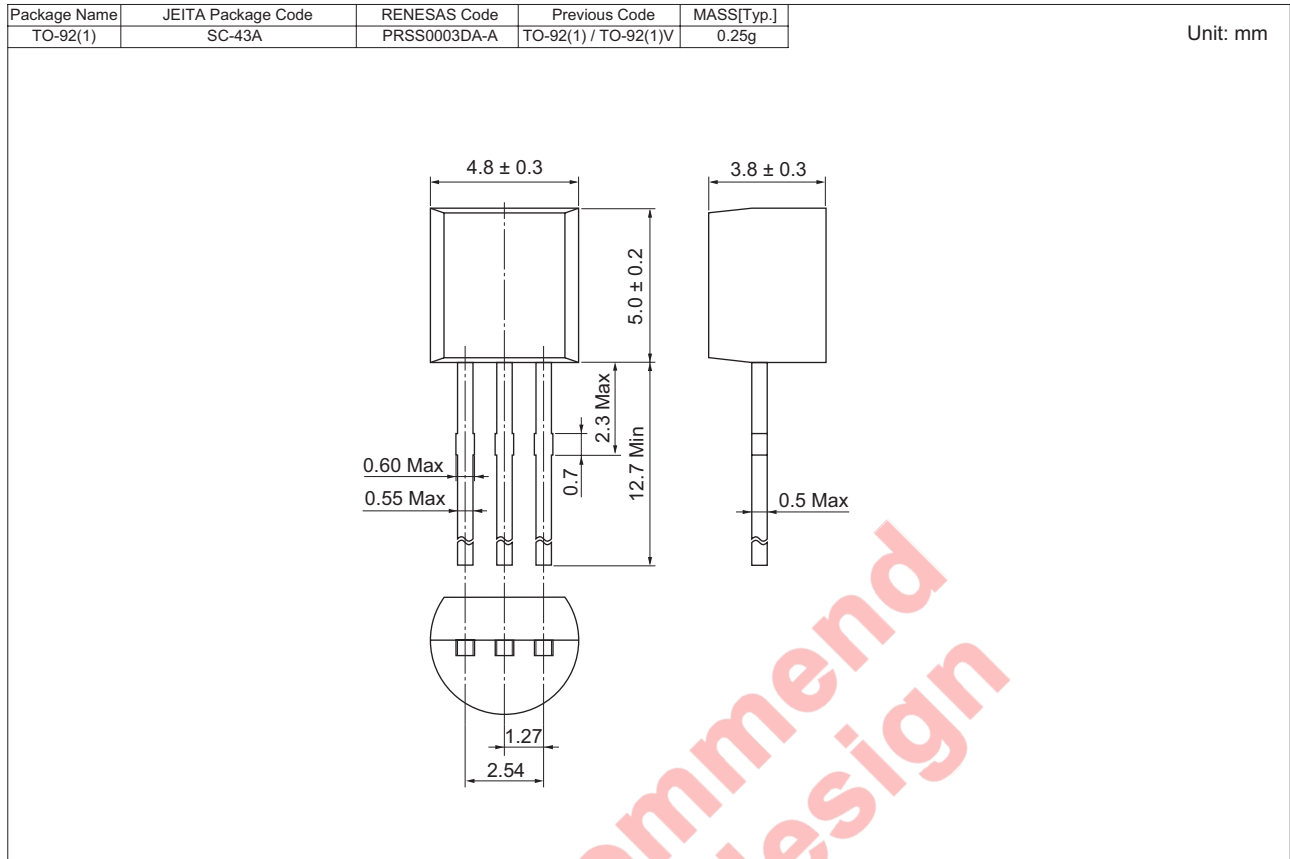
Main Characteristics



DC Current Transfer Ratio vs. Collector Current



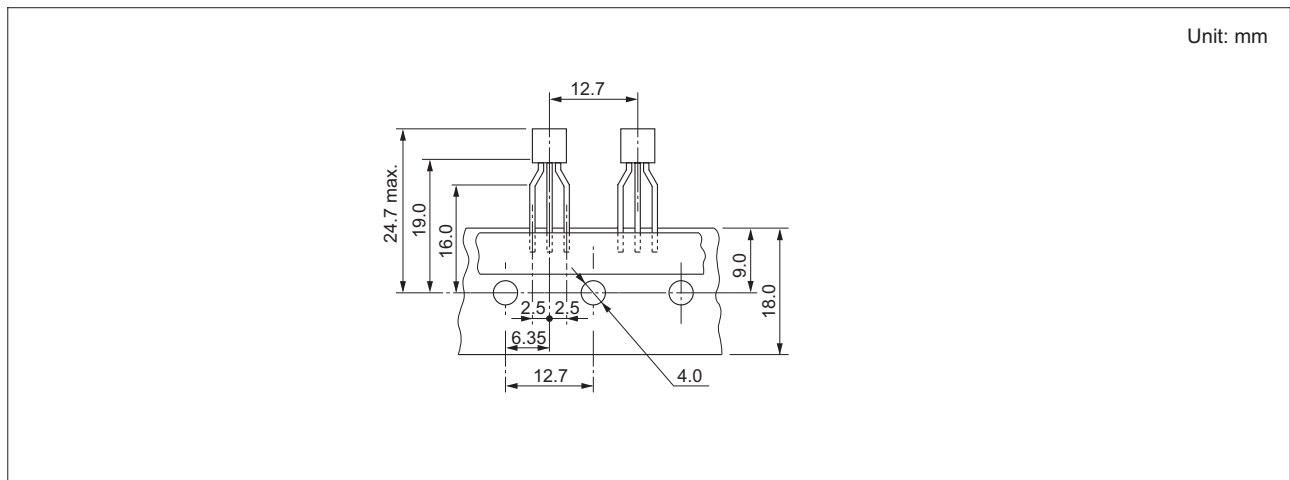
Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SC1213CTZ-E 2SC1213DTZ-E 2SC1213ABTZ-E 2SC1213ACTZ-E 2SC1213ADTZ-E	2500	Hold Box, Radial Taping

- Notes: 1. For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.
 2. Leads is forming applied as following figure.



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