

2SC2545, 2SC2546, 2SC2547

Silicon NPN Epitaxial

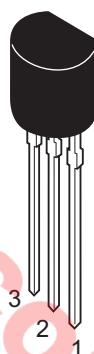
REJ03G0699-0300
 (Previous ADE-208-1067A)
 Rev.3.00
 Aug.10.2005

Application

Low frequency low noise amplifier

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	2SC2545	2SC2546	2SC2547	Unit
Collector to base voltage	V_{CBO}	60	90	120	V
Collector to emitter voltage	V_{CEO}	60	90	120	V
Emitter to base voltage	V_{EBO}	5	5	5	V
Collector current	I_C	100	100	100	mA
Emitter current	I_E	-100	-100	-100	mA
Collector power dissipation	P_C	400	400	400	mW
Junction temperature	T_j	150	150	150	°C
Storage temperature	T_{stg}	-55 to +150	-55 to +150	-55 to +150	°C

Electrical Characteristics

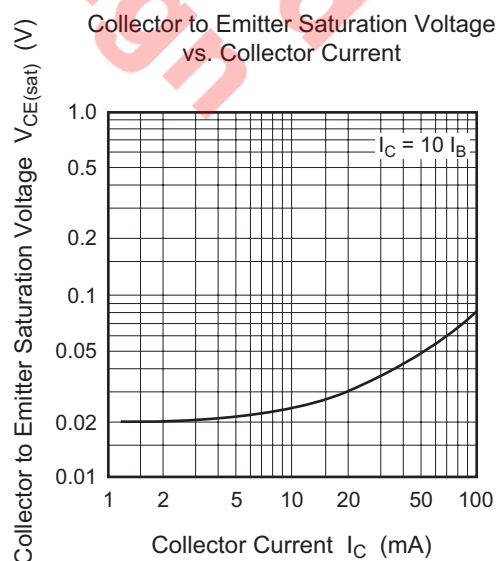
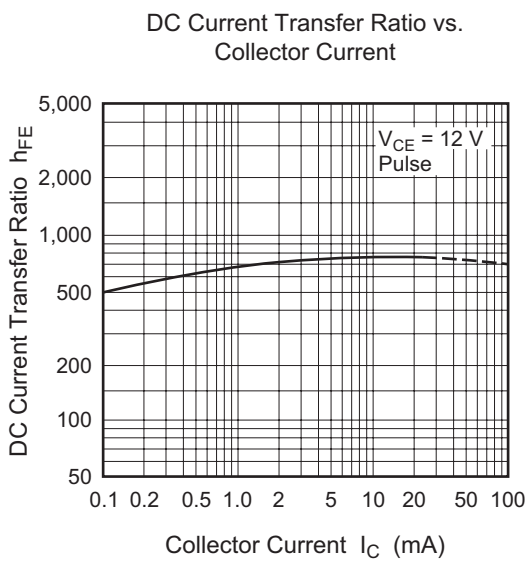
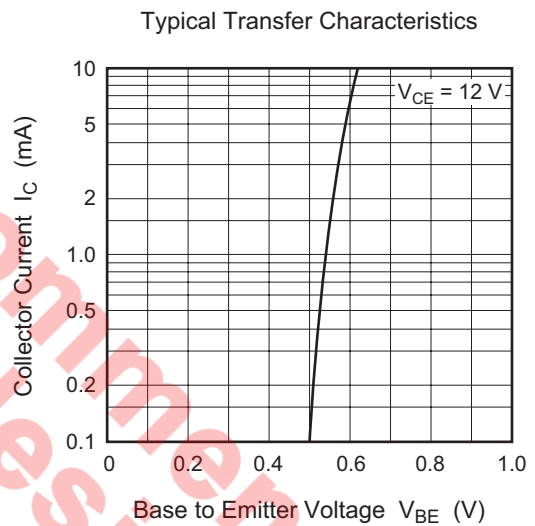
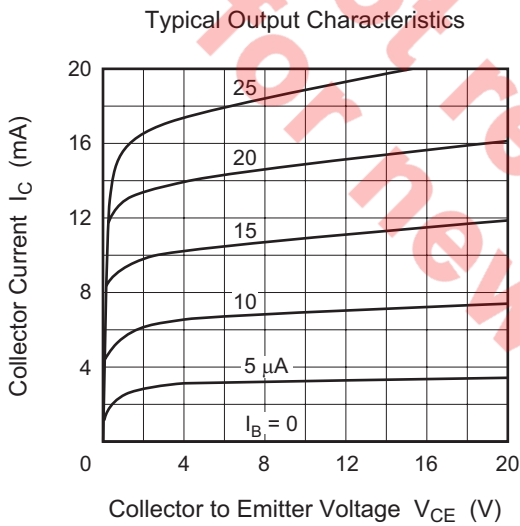
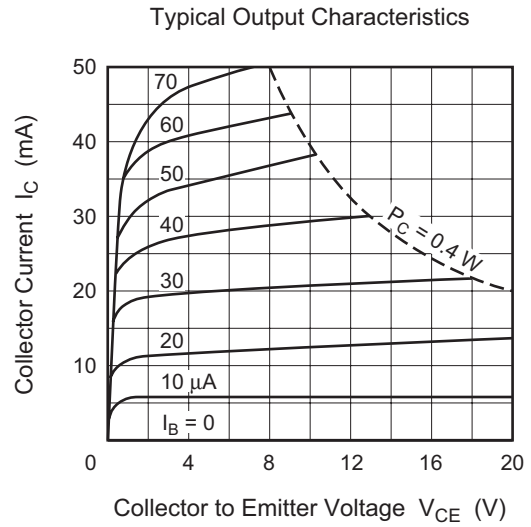
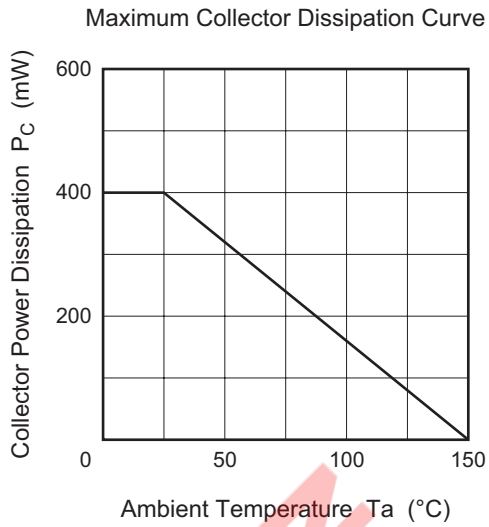
(Ta = 25°C)

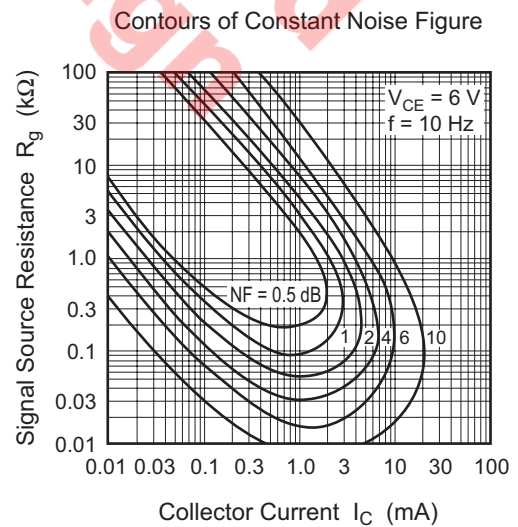
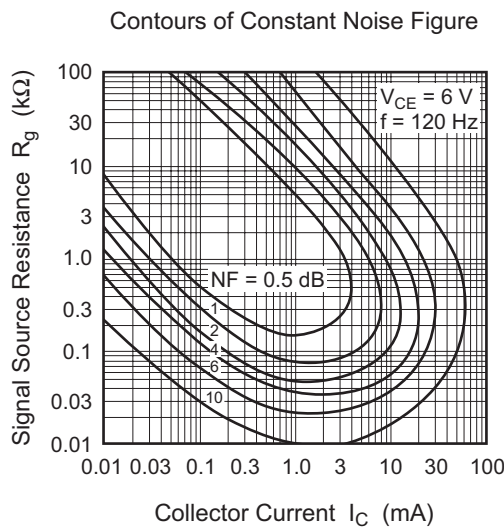
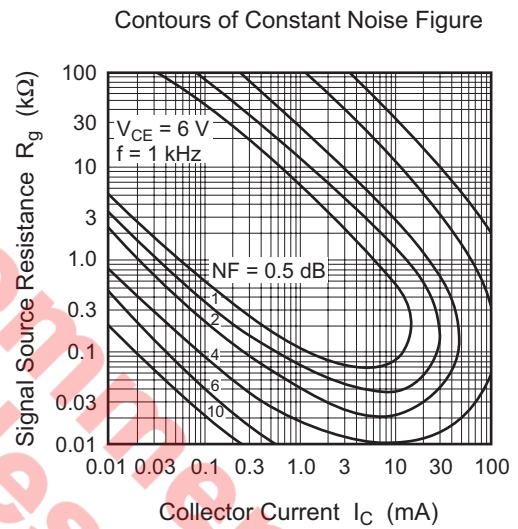
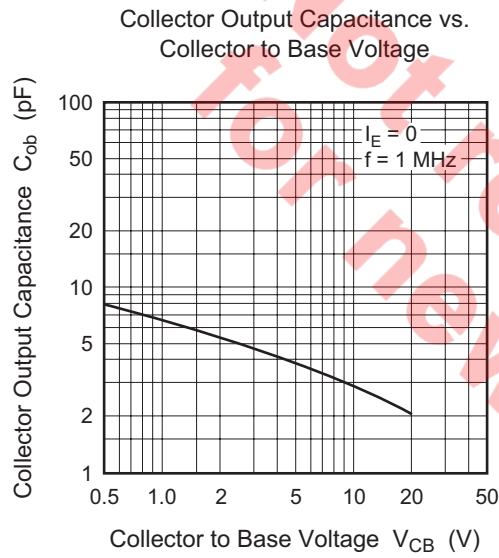
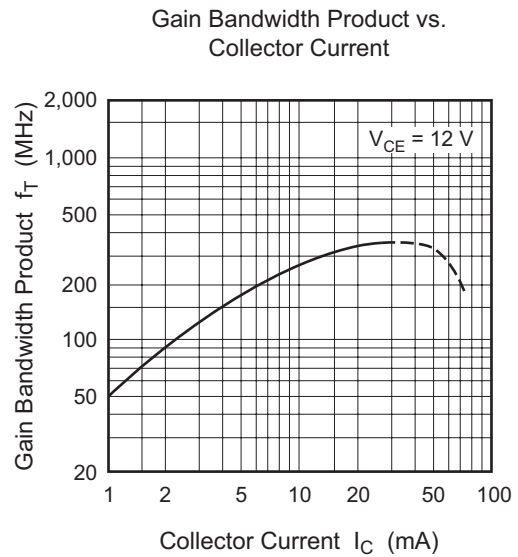
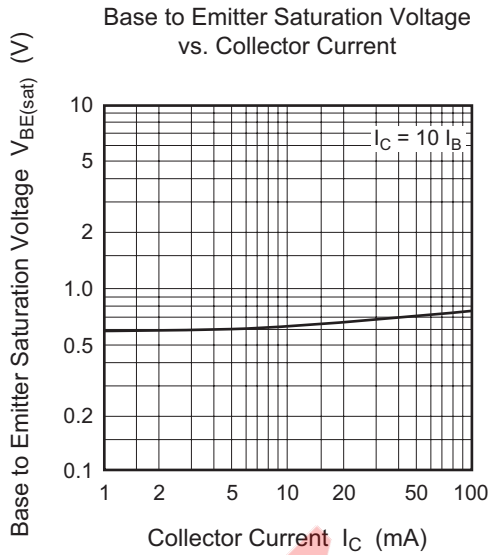
Item	Symbol	2SC2545			2SC2546			2SC2547			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	$V_{(BR)CBO}$	60	—	—	90	—	—	120	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	60	—	—	90	—	—	120	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	5	—	—	5	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	0.1	—	—	0.1	—	—	0.1	μA	$V_{CB} = 50 \text{ V}, I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	0.1	—	—	0.1	—	—	0.1	μA	$V_{EB} = 2 \text{ V}, I_C = 0$
DC current transfer ratio	h_{FE}^{*1}	250	—	1200	600	—	1200	250	—	800		$V_{CE} = 12 \text{ V}, I_C = 2 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.2	—	—	0.2	—	—	0.2	V	$I_C = 10 \text{ mA}, I_B = 1 \text{ mA}$
Base to emitter voltage	V_{BE}	—	0.6	—	—	0.6	—	—	0.6	—	V	$V_{CE} = 12 \text{ V}, I_C = 2 \text{ mA}$
Gain bandwidth product	f_T	—	90	—	—	90	—	—	90	—	MHz	$V_{CE} = 12 \text{ V}, I_C = 2 \text{ mA}$
Collector output capacitance	C_{ob}	—	3.0	—	—	3.0	—	—	3.0	—	pF	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$
Noise voltage referred input	e_n	—	0.5	—	—	0.5	—	—	0.5	—	nV/ $\sqrt{\text{Hz}}$	$V_{CE} = 6 \text{ V}, I_C = 10 \text{ mA}, f = 1 \text{ kHz}, R_g = 0, \Delta f = 1 \text{ Hz}$

Note: 1. The 2SC2545 and 2SC2547 are grouped by h_{FE} as follows.

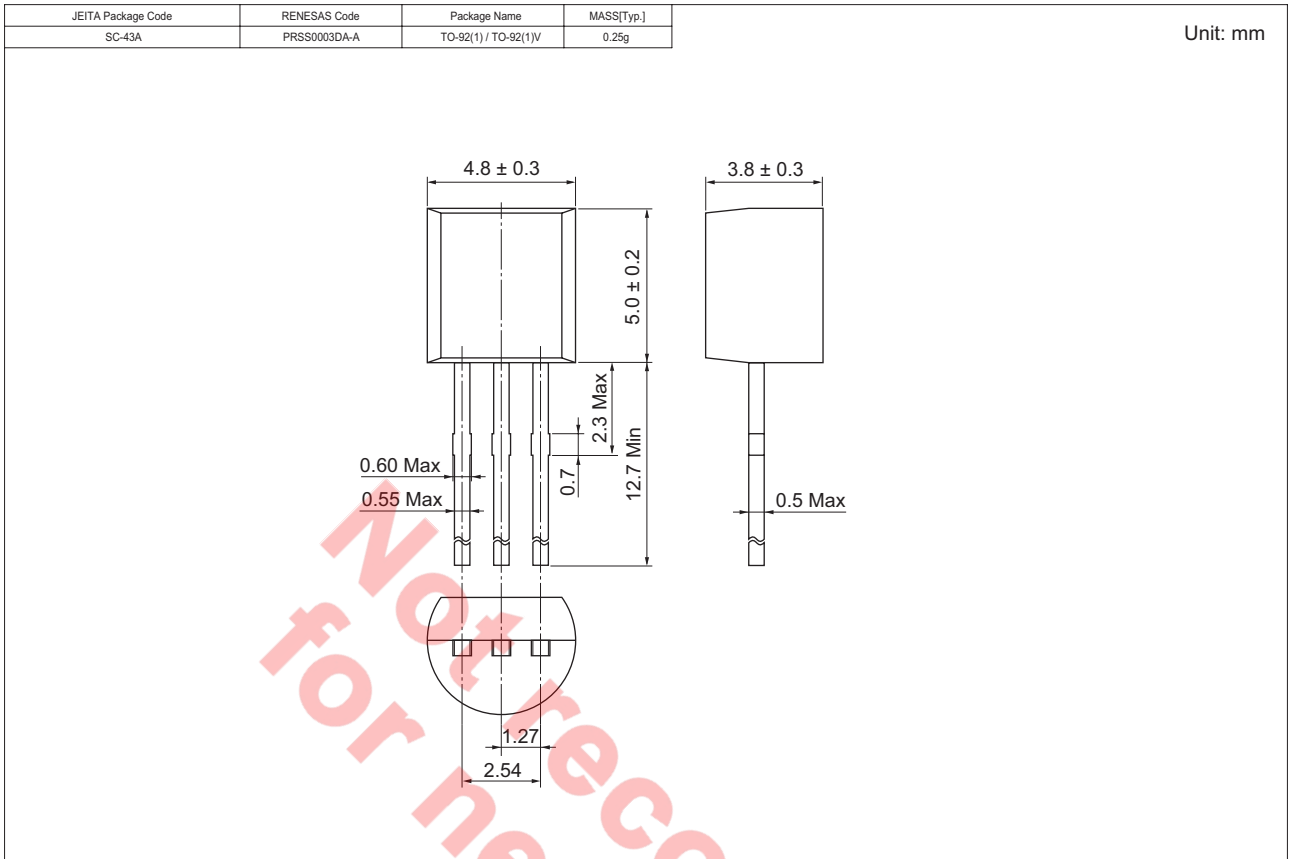
	D	E	F
2SC2545	—	400 to 800	600 to 1200
2SC2547	250 to 500	400 to 800	—

Main Characteristics





Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SC2545ETZ-E 2SC2545FTZ-E 2SC2546FTZ-E 2SC2547ETZ-E	2500	Hold Box, Radial 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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Renesas Technology America, Inc.

450 Holger Way, San Jose, CA 95134-1368, U.S.A
Tel: <1> (408) 382-7500, Fax: <1> (408) 382-7501

Renesas Technology Europe Limited

Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K.
Tel: <44> (1628) 585-100, Fax: <44> (1628) 585-900

Renesas Technology Hong Kong Ltd.

7th Floor, North Tower, World Finance Centre, Harbour City, 1 Canton Road, Tsimshatsui, Kowloon, Hong Kong
Tel: <852> 2265-6688, Fax: <852> 2730-6071

Renesas Technology Taiwan Co., Ltd.

10th Floor, No.99, Fushing North Road, Taipei, Taiwan
Tel: <886> (2) 2715-2888, Fax: <886> (2) 2713-2999

Renesas Technology (Shanghai) Co., Ltd.

Unit2607 Ruijing Building, No.205 Maoming Road (S), Shanghai 200020, China
Tel: <86> (21) 6472-1001, Fax: <86> (21) 6415-2952

Renesas Technology Singapore Pte. Ltd.

1 Harbour Front Avenue, #06-10, Keppel Bay Tower, Singapore 098632
Tel: <65> 6213-0200, Fax: <65> 6278-8001

Renesas Technology Korea Co., Ltd.

Kukje Center Bldg. 18th Fl., 191, 2-ka, Hangang-ro, Yongsan-ku, Seoul 140-702, Korea
Tel: <82> 2-796-3115, Fax: <82> 2-796-2145

Renesas Technology Malaysia Sdn. Bhd.

Unit 906, Block B, Menara Amcorp, Amcorp Trade Centre, No.18, Jalan Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel: <603> 7955-9390, Fax: <603> 7955-9510