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 Technology Home Page: http://www.renesas.com

Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

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2SD755, 2SD756, 2SD756A

Silicon NPN Epitaxial

RENESAS

Application

- Low frequency high voltage amplifier
- Complementary pair with 2SB715, 2SB716 and 2SB716A

Outline

TO-92MOD

1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	2SD755	2SD756	2SD756A	Unit
Collector to base voltage	V_{CBO}	100	120	140	V
Collector to emitter voltage	V_{CEO}	100	120	140	V
Emitter to base voltage	V_{EBO}	5	5	5	V
Collector current	I_C	50	50	50	mA
Collector power dissipation	P_C	750	750	750	mW
Junction temperature	Tj	150	150	150	°C
Storage temperature	Tstg	–55 to +150	–55 to +150	–55 to +150	°C

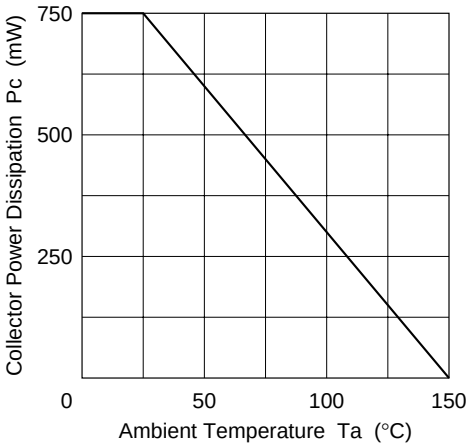
Electrical Characteristics (Ta = 25°C)

		2SD755			2SD756			2SD756A				
Item	Symbol	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	100	—	—	120	—	—	140	—	—	V	I_C = 1 mA, R_{BE} = ∞
Collector to base breakdown voltage	$V_{(BR)CBO}$	100	—	—	120	—	—	140	—	—	V	I_C = 10 µA, I_E = 0
Collector cutoff current	I_{CBO}	—	—	0.5	—	—	0.5	—	—	0.5	µA	V_{CB} = 100 V, I_E = 0
DC current transfer ratio	h_{FE1}*1	250	—	1200	250	—	800	250	—	500		V_{CE} = 12 V, I_C = 2 mA
	h_{FE2}	125	—	—	125	—	—	125	—	—		V_{CE} = 12 V, I_C = 10 mA
Base to emitter voltage	V_{BE}	—	—	0.75	—		0.75	—	—	0.75	V	V_{CE} = 12 V, I_C = 2 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.2	—	—	0.2	—	—	0.2	V	I_C = 10 mA, I_B = 1 mA
Gain bandwidth product	f_T	—	350	—	—	350	—	—	350	—	MHz	V_{CE} = 12 V, I_C = 5 mA
Collector output capacitance	Cob	—	1.6	—	—	1.6	—	—	1.6	—	pF	V_{CB} = 25 V, I_E = 0, f = 1 MHz

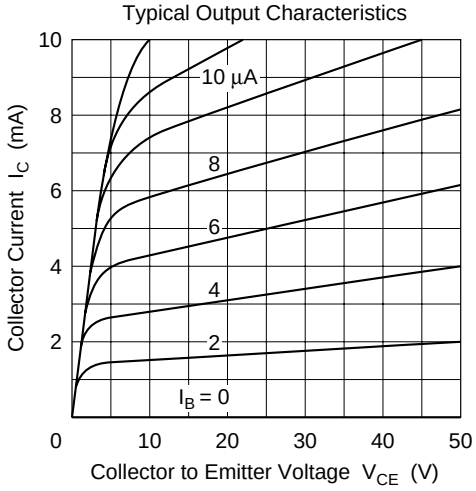
Note: 1. The 2SD755, 2SD756 and 2SD756A are grouped by h_{FE1} as follows.

	D	E	F
2SD755	250 to 500	400 to 800	600 to 1200
2SD756	250 to 500	400 to 800	—
2SD756A	250 to 500	—	—

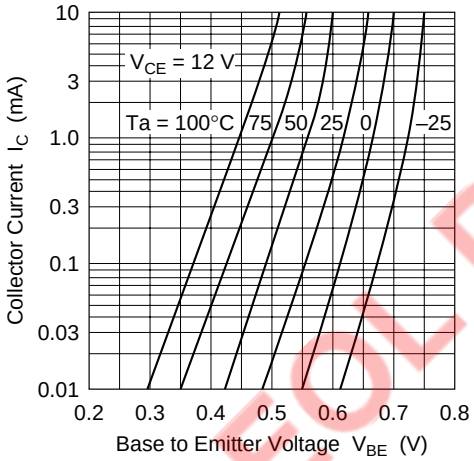
Maximum Collector Dissipation Curve



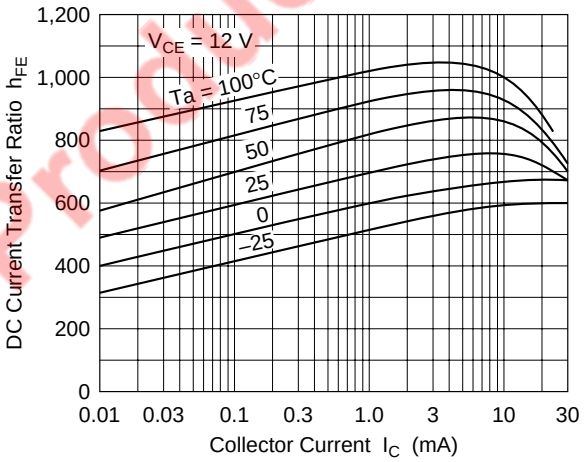
Typical Output Characteristics



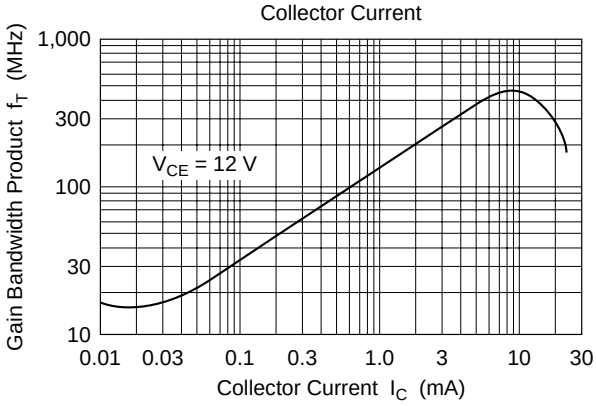
Typical Transfer Characteristics



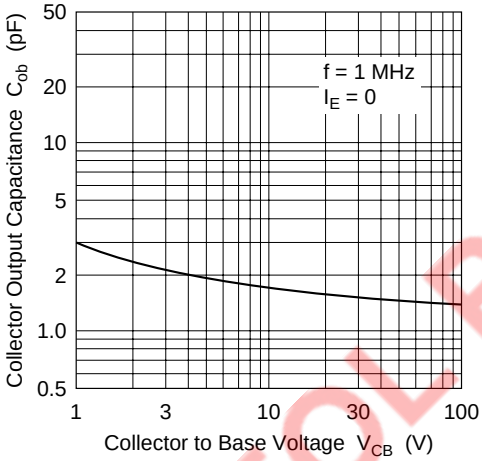
DC Current Transfer Ratio vs. Collector Current



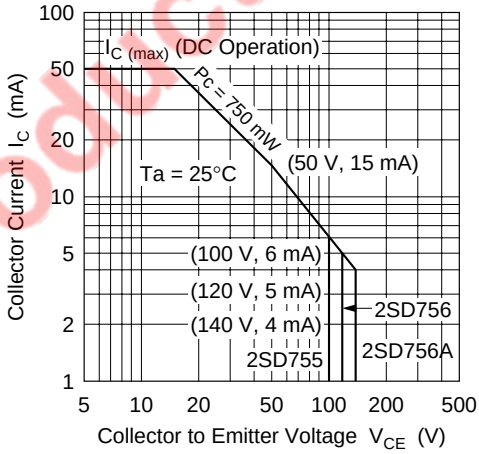
Gain Bandwidth Product vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage



Area of Safe Operation



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