

2SD788

Silicon NPN Epitaxial

REJ03G0771-0200
(Previous ADE-208-1139)
Rev.2.00
Aug.10.2005

Application

- Low frequency power amplifier
- Complementary pair with 2SB738 and 2SB739

Outline

RENESAS Package code: PRSS0003DC-A
(Package name: TO-92 Mod)



1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
	V_{CBO}	20	V
Collector to emitter voltage	V_{CEO}	20	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	2	A
Collector power dissipation	P_C	0.9	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-50 to +150	°C

Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	20	—	—	V	$I_C = 10\ \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	20	—	—	V	$I_C = 1\ mA, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	$I_E = 10\ \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	2	μA	$V_{CB} = 16\ V, I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	0.2	μA	$V_{EB} = 6\ V, I_C = 0$
DC current transfer ratio	h_{FE}^{*1}	160	—	500		$V_{CE} = 2\ V, I_C = 0.1\ A$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.3	V	$I_C = 1\ A, I_B = 0.1\ A$
Gain bandwidth product	f_T	—	100	—	MHz	$V_{CE} = 2\ V,$ $I_C = 10\ mA$
Collector output capacitance	C_{ob}	—	20	—	pF	$V_{CB} = 10\ V, I_E = 0,$ $f = 1\ MHz$

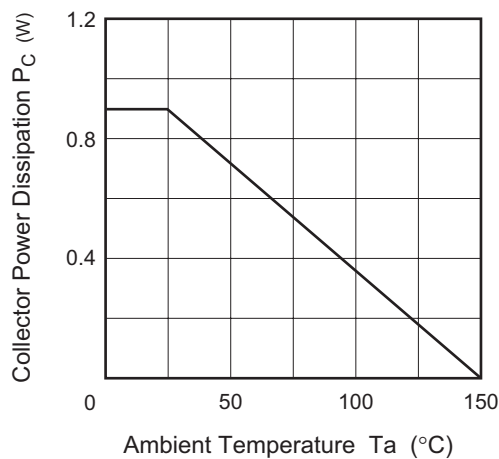
Note: 1. The 2SD788 is grouped by h_{FE} as follows.

C	D
160 to 320	250 to 500

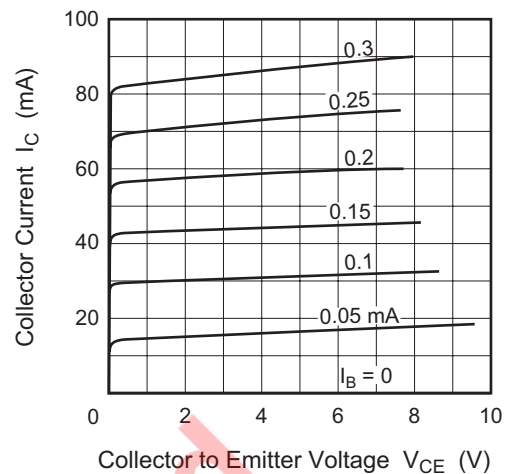
Not recommend
for new design

Main Characteristics

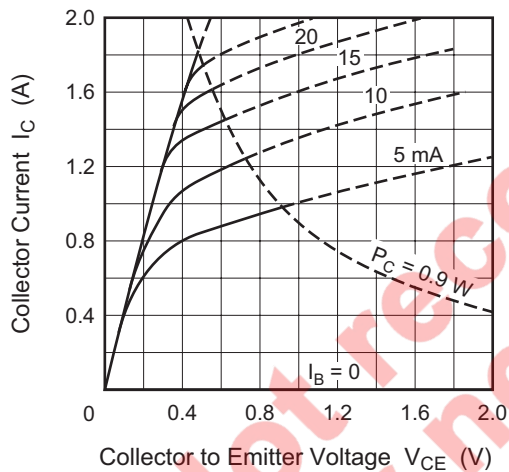
Maximum Collector Dissipation Curve



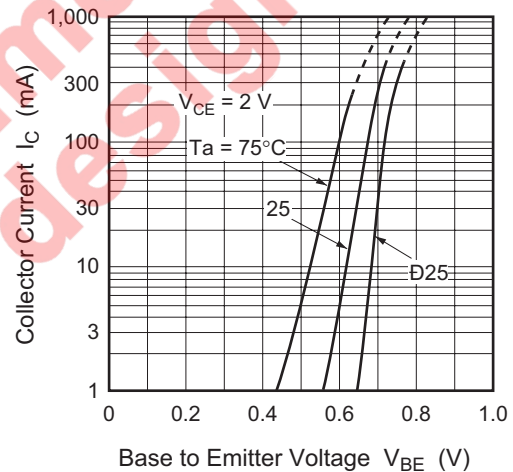
Typical Output Characteristics



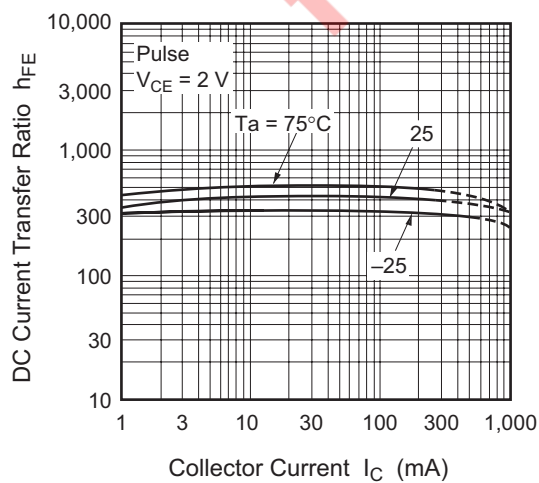
Typical Output Characteristics



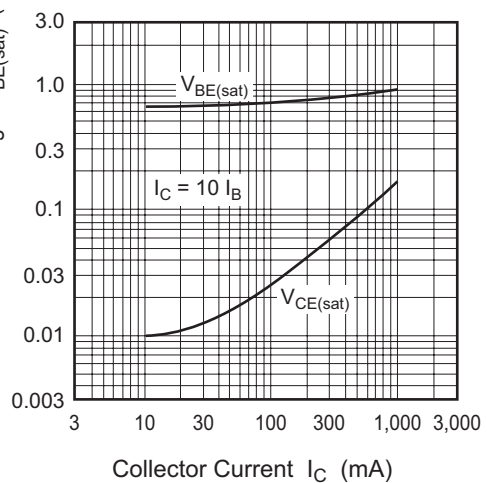
Typical Transfer Characteristics

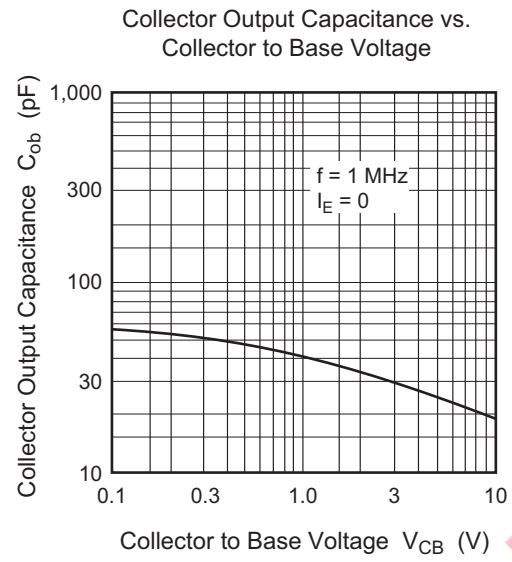


DC Current Transfer Ratio vs. Collector Current

Collector to Emitter Saturation Voltage $V_{CE(sat)}$ (V)
Base to Emitter Saturation Voltage $V_{BE(sat)}$ (V)

Saturation Voltage vs. Collector Current





Not recommended
for new design

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