2SC1472(K)

Silicon NPN Epitaxial, Darlington

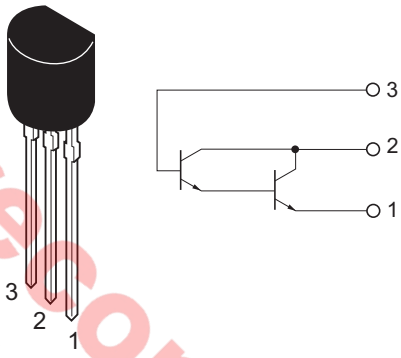
REJ03G0688-0200
(Previous ADE-208-1054)
Rev.2.00
Aug.10.2005

Application

High gain amplifier

Outline

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



1. Emitter
2. Collector
3. Base

Not recommend for new design

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	40	V
Collector to emitter voltage	V_{CEO}	30	V
Emitter to base voltage	V_{EBO}	10	V
Collector current	I_C	300	mA
Collector peak current	$i_{C(peak)}$	500	mA
Collector power dissipation	P_C	500	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Electrical Characteristics

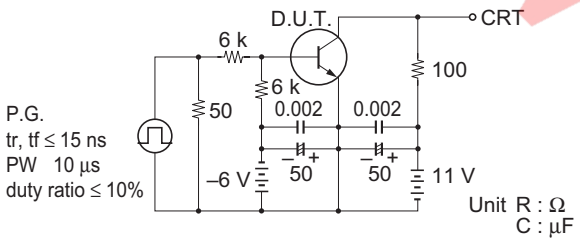
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	30	—	—	V	I_C = 1 mA, R_{BE} = ∞
Collector cutoff current	I_{CBO}	—	—	100	nA	V_{CB} = 30 V, I_E = 0
Emitter cutoff current	I_{EBO}	—	—	100	nA	V_{EB} = 10 V, I_C = 0
DC current transfer ratio	h_{FE1}*[1]	2000	—	100000		I_C = 10 mA, V_{CE} = 5 V
	h_{FE2}*[1]	3000	—	—		I_C = 100 mA, V_{CE} = 5 V (Pulse Test)
	h_{FE3}*[1]	3000	—	—		I_C = 400 mA, V_{CE} = 5 V (Pulse Test)
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	I_C = 100 mA, I_B = 0.1 mA
Base to emitter voltage	$V_{BE(sat)}$	—	—	2.0	V	I_C = 100 mA, I_B = 0.1 mA
Gain bandwidth product	f_T	50	—	—	MHz	V_{CE} = 5 V, I_C = 10 mA
Collector output capacitance	Cob	—	—	10	pF	V_{CB} = 10 V, I_E = 0, f = 1 MHz
Turn on time	t_{on}	—	60	—	ns	V_{CC} = 11 V I_C = 100 I_{B1} = 100 mA I_{B2} = –I_{B1}
Turn off time	t_{off}	—	800	—	ns	
Storage time	t_{stg}	—	350	—	ns	

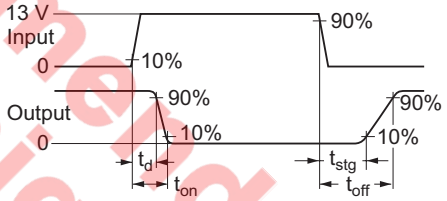
Note: 1. The 2SC1472(K) is grouped by h_{FE} as follows.

	A	B
h_{FE1}	2000 to 100000	5000 to 100000
h_{FE2}	3000 min	10000 min
h_{FE3}	3000 min	10000 min

Switching Time Test Circuit



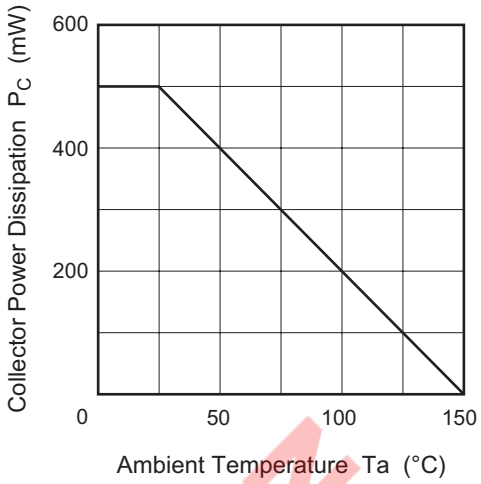
Response Waveform



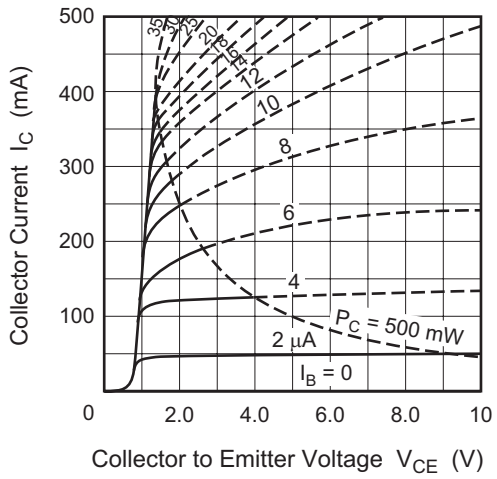
Not recommend for new design

Main Characteristics

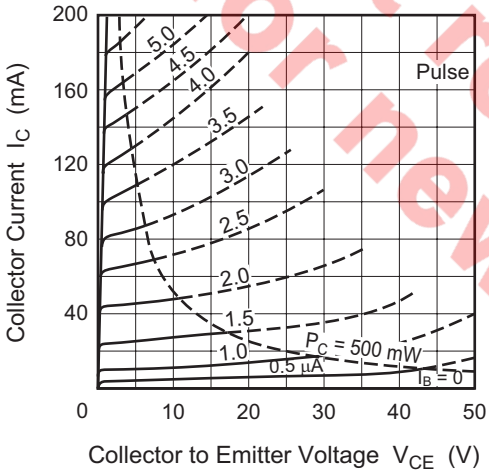
Maximum Collector Dissipation Curve



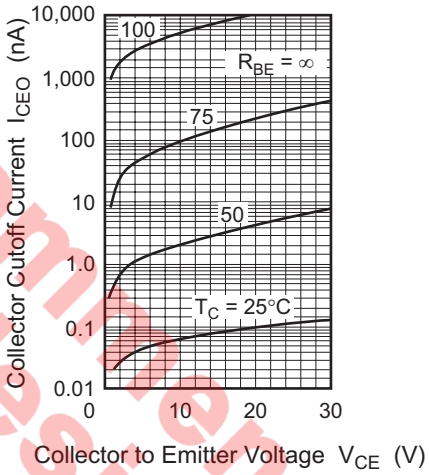
Typical Output Characteristics



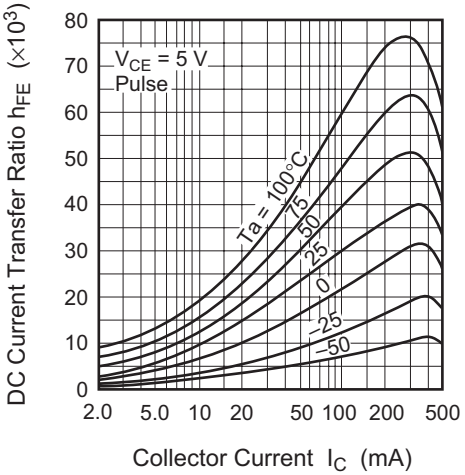
Typical Output Characteristics



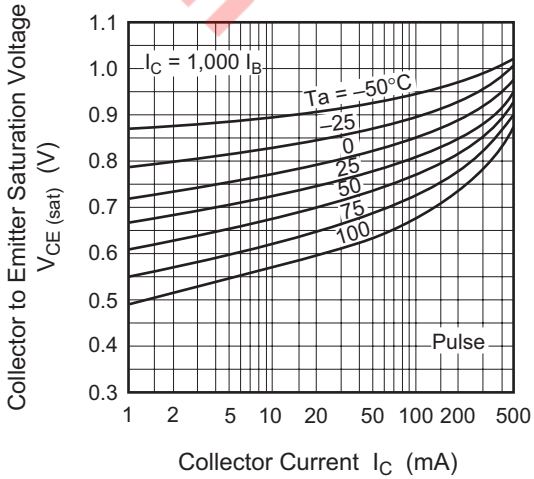
Collector Cutoff Current vs. Collector to Emitter Voltage



DC Current Transfer Ratio vs. Collector Current

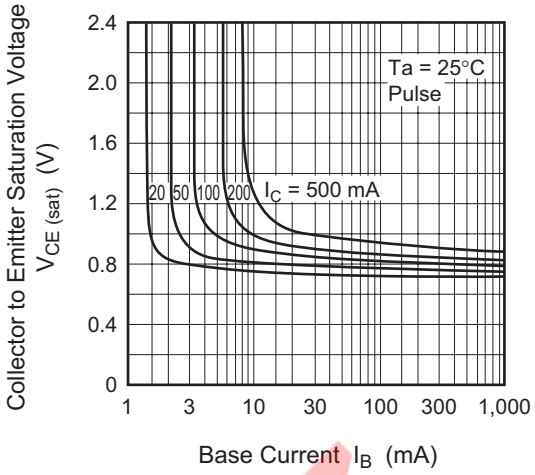


Collector to Emitter Saturation Voltage vs. Collector Current

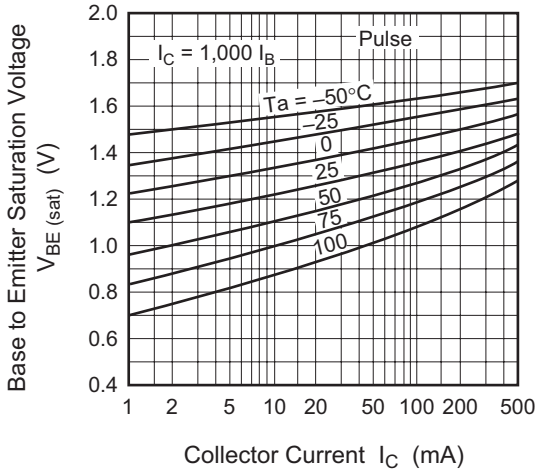


Not recommend for new design

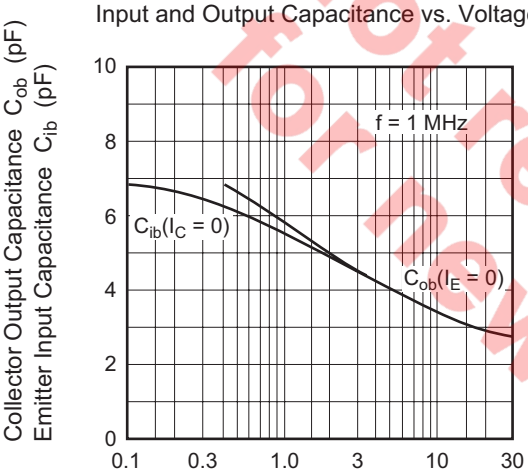
Collector to Emitter Saturation Voltage vs. Base Current



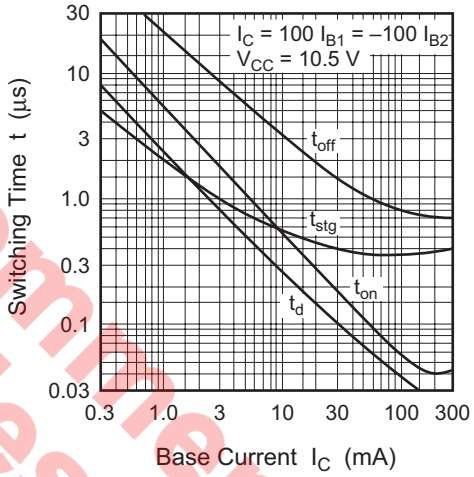
Base to Emitter Saturation Voltage vs. Collector Current



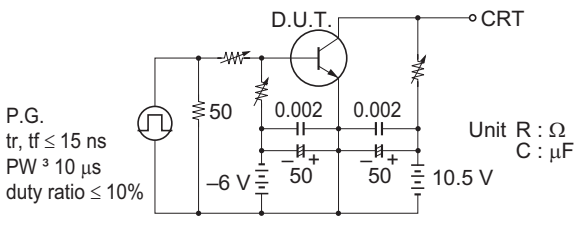
Input and Output Capacitance vs. Voltage



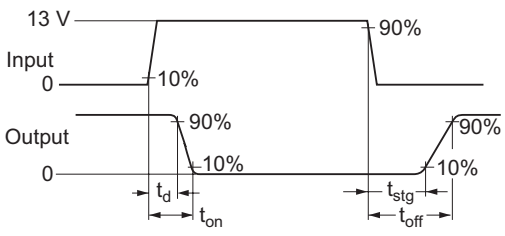
Switching Time vs. Collector Current



Switching Time Test Circuit



Response Waveform

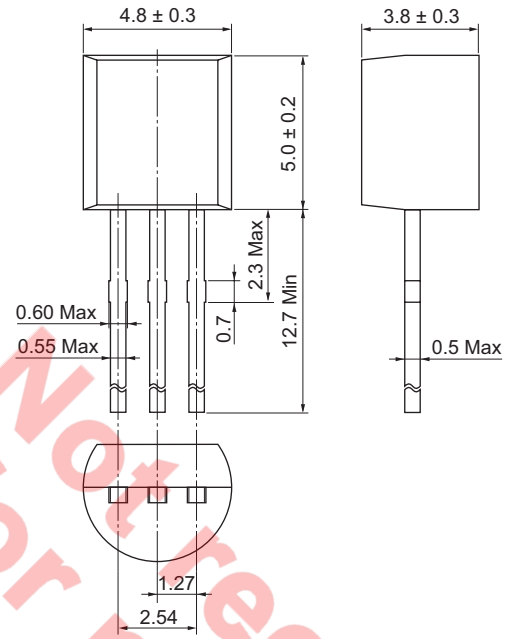


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Package Dimensions

JEITA Package Code	RENESAS Code	Package Name	MASS[Typ.]
SC-43A	PRSS0003DA-A	TO-92(1) / TO-92(1)V	0.25g

Unit: mm



Not recommend for new design

Ordering Information

Part Name	Quantity	Shipping Container
2SC1472KATZ-E 2SC1472KBTZ-E	2500	Hold Box, Radial Taping

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