To all our customers

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

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2SD2423

Silicon NPN Epitaxial, Darlington

RENESAS

Application

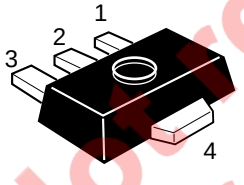
Low frequency power amplifier

Features

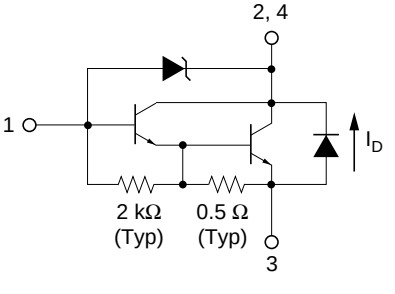
The transistor with a built-in zener diode of surge absorb.

Outline

UPAK



1. Base
2. Collector
3. Emitter
4. Collector (Flange)



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	50	V
Collector to emitter voltage	V_{CEO}	50	V
Emitter to base voltage	V_{EBO}	7	V
Collector current	I_C	1.5	A
Collector power dissipation	P_C*[1]	1	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C
Collector to emitter diode forward current	I_D	1.5	A

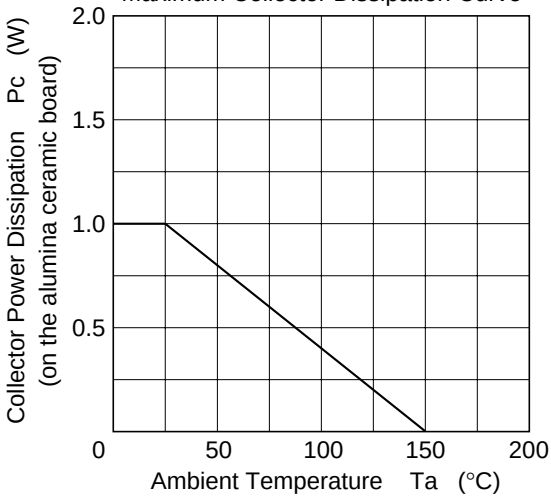
Note: 1. When using the ceramic board 0.7 mm thick (12.5 mm x 20 mm).

Electrical Characteristics (Ta = 25°C)

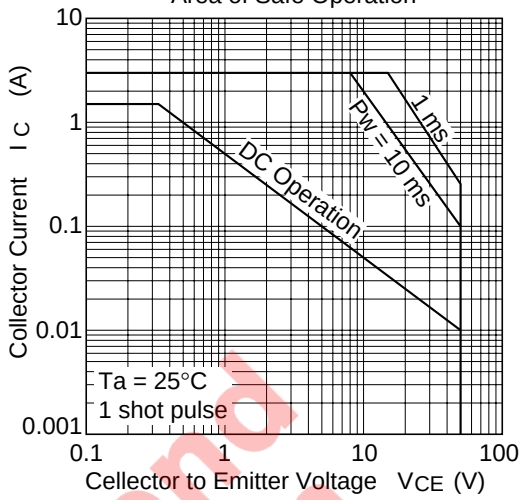
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	50	—	70	V	I_C = 100 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	50	—	—	V	I_C = 10 mA, R_{BE} = ∞
Collector to emitter sustaining voltage	$V_{CEO(sus)}$	50	—	70	V	I_C = 1.5 A, R_{BE} = ∞, L = 10 mH*[1]
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	I_E = 50 mA, I_C = 0
Collector cutoff current	I_{CEO}	—	—	10	µA	V_{CE} = 40 V, R_{BE} = ∞
DC current transfer ratio	h_{FE}	2000	—	10000		V_{CE} = 3 V, I_C = 1 A*[1]
Collector to emitter saturation voltage	$V_{CE(sat)1}$	—	—	1.5	V	I_C = 1 A, I_B = 1 mA*[1]
Collector to emitter saturation voltage	$V_{CE(sat)2}$	—	—	2.3	V	I_C = 1.5 A, I_B = 1.5 mA*[1]
Base to emitter saturation voltage	$V_{BE(sat)1}$	—	—	2.0	V	I_C = 1 A, I_B = 1 mA*[1]
Base to emitter saturation voltage	$V_{BE(sat)2}$	—	—	2.5	V	I_C = 1.5 A, I_B = 1.5 mA*[1]
Emitter to collector diode forward voltage	V_D	—	—	3.5	V	I_D = 1.5 A*[1]

Notes: 1. Pulse test
2. Marking is “GT”.

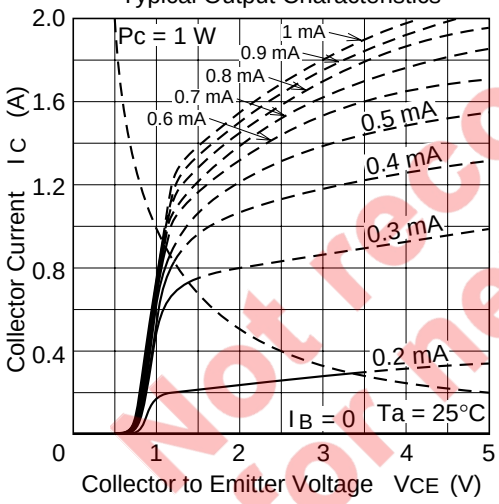
Maximum Collector Dissipation Curve



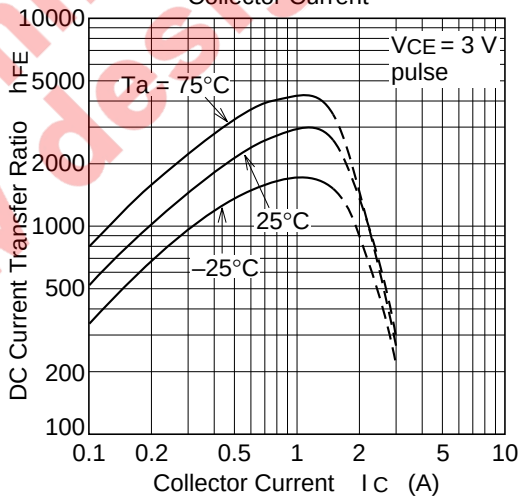
Area of Safe Operation



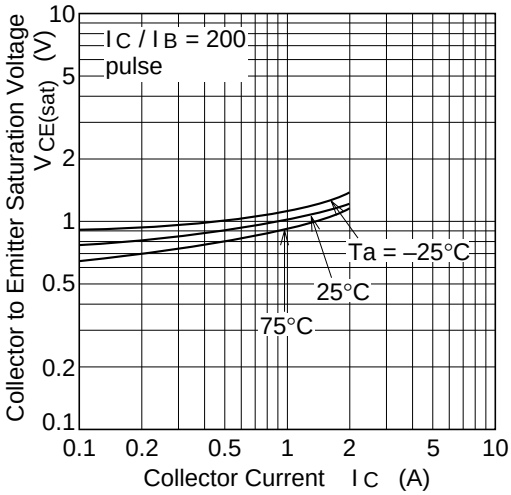
Typical Output Characteristics



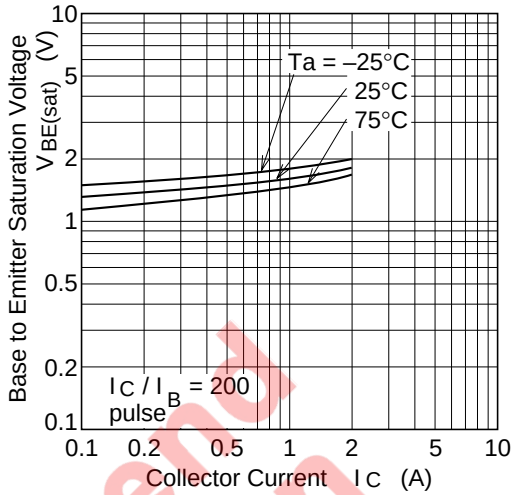
DC Current Transfer Ratio vs. Collector Current



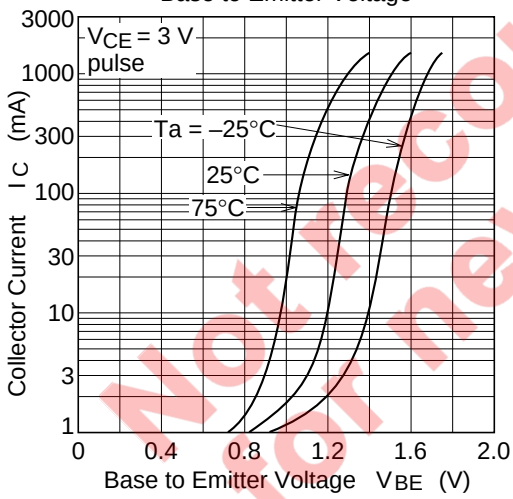
Collector to Emitter Saturation Voltage vs. Collector Current



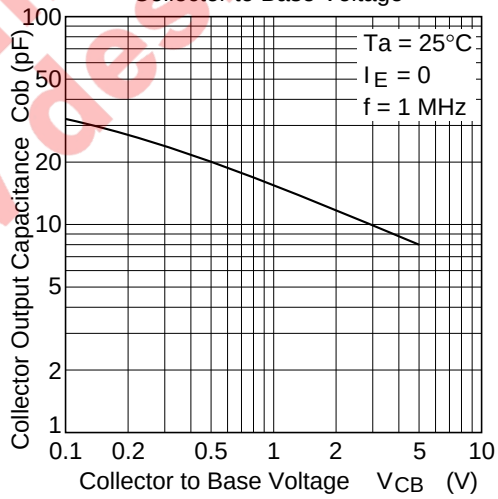
Base to Emitter Saturation Voltage vs. Collector Current



Collector Current vs. Base to Emitter Voltage



Collector Output Capacitance vs. Collector to Base Voltage



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HITACHI

Hitachi, Ltd.
Semiconductor & IC Div.
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100, Japan
Tel: Tokyo (03) 3270-2111
Fax: (03) 3270-5109

For further information write to:

Hitachi America, Ltd.
Semiconductor & IC Div.
2000 Sierra Point Parkway
Brisbane, CA. 94005-1835
U S A
Tel: 415-589-8300
Fax: 415-583-4207

Hitachi Europe GmbH
Electronic Components Group
Continental Europe
Dornacher Straße 3
D-85622 Feldkirchen
München
Tel: 089-9 91 80-0
Fax: 089-9 29 30 00

Hitachi Europe Ltd.
Electronic Components Div.
Northern Europe Headquarters
Whitebrook Park
Lower Cookham Road
Maidenhead
Berkshire SL6 8YA
United Kingdom
Tel: 0628-585000
Fax: 0628-778322

Hitachi Asia Pte. Ltd.
16 Collyer Quay #20-00
Hitachi Tower
Singapore 0104
Tel: 535-2100
Fax: 535-1533

Hitachi Asia (Hong Kong) Ltd.
Unit 706, North Tower,
World Finance Centre,
Harbour City, Canton Road
Tsim Sha Tsui, Kowloon
Hong Kong
Tel: 27359218
Fax: 27306071

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