HTT1213E

Silicon NPN Epitaxial Twin Transistor

REJ03G0526-0100
(Previous ADE-208-1449(Z))
Rev.1.00
Feb.07.2005

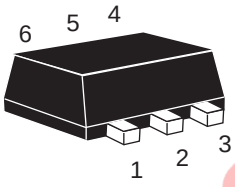
Features

- Include 2 transistors in a small size SMD package: EMFPAK–6 (6 Leads: 1.2 x 0.8 x 0.5 mm)

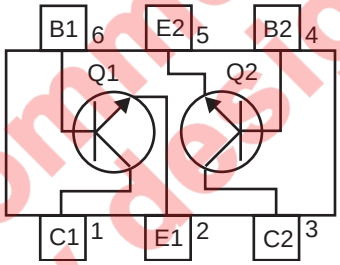
Q1: Equivalent Buffer Transistor	Q2: Equivalent OSC Transistor
2SC5700	2SC5700

Outline

PXSF0006LA-A
(Previous code: EMFPAK-6)



Pin Arrangement



1. Collector Q1
2. Emitter Q1
3. Collector Q2
4. Base Q2
5. Emitter Q2
6. Base Q1

Note: Marking is “E”.

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings Q1 and Q2	Unit
Collector to base voltage	V_{CBO}	15	V
Collector to emitter voltage	V_{CEO}	4	V
Emitter to base voltage	V_{EBO}	1.5	V
Collector current	I_C	50	mA
Collector power dissipation	P_C	Total 200*	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

*Value on PCB. (FR–4(13 x 13 x 0.635 mm))

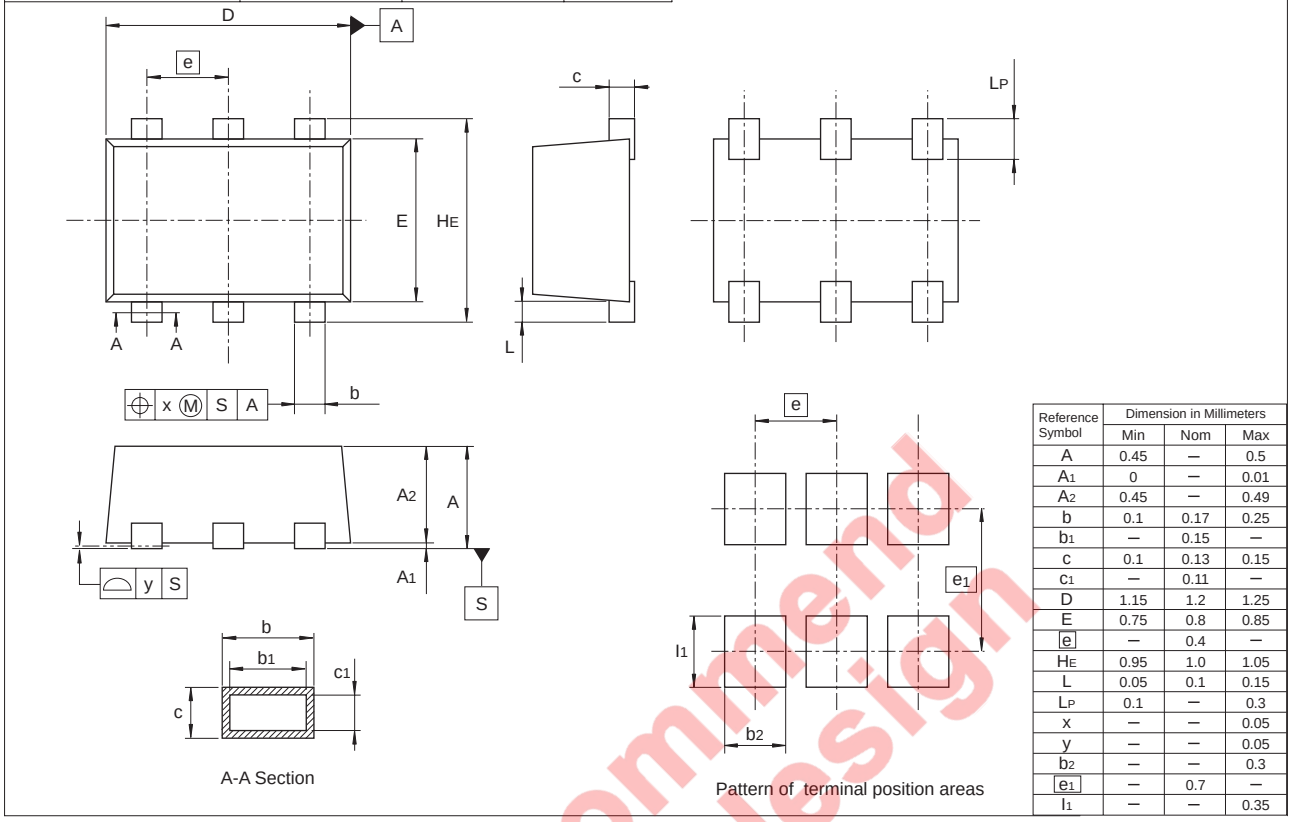
Electrical Characteristics (Q1 and Q2)

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	15	—	—	V	I_C = 10 µA, I_E = 0
Collector cutoff current	I_{CBO}	—	—	0.1	µA	V_{CB} = 15 V, I_E = 0
Collector cutoff current	I_{CEO}	—	—	1	µA	V_{CE} = 4 V, R_{BE} = infinite
Emitter cutoff current	I_{EBO}	—	—	0.1	µA	V_{EB} = 0.8 V, I_C = 0
DC current transfer ratio	h_{FE}	100	130	150	—	V_{CE} = 1 V, I_C = 5 mA
Reverse transfer capacitance	C_{re}	—	0.30	0.45	pF	V_{CB} = 1 V, f = 1 MHz Emitter ground
Gain bandwidth product	f_T	10	12	—	GHz	V_{CE} = 1 V, I_C = 5 mA, f = 1 GHz
Forward transfer coefficient	$\|S_{21}\|^2$	13	16	—	dB	V_{CE} = 1 V, I_C = 5 mA,
Noise figure	NF	—	1.0	1.7	dB	f = 900 MHz, $\Gamma_S = \Gamma_L$ = 50 Ω

Package Dimensions

JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
—	PXSF0006LA-A	EMFPAK-6 / EMFPAK-6V	0.0012g



Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
A	0.45	–	0.5
A_1	0	–	0.01
A_2	0.45	–	0.49
b	0.1	0.17	0.25
b_1	–	0.15	–
c	0.1	0.13	0.15
c_1	–	0.11	–
D	1.15	1.2	1.25
E	0.75	0.8	0.85
e	–	0.4	–
H_E	0.95	1.0	1.05
L	0.05	0.1	0.15
L_P	0.1	–	0.3
x	–	–	0.05
y	–	–	0.05
b_2	–	–	0.3
e_1	–	0.7	–
l_1	–	–	0.35

Ordering Information

Part Name	Quantity	Shipping Container
HTT1213EETL	5000	ϕ178Taping

Note: Therefore especially small contact area of terminal, miss contact may occur if inadequate soldering condition is applied.
Contact Renesas sales office for any question regarding recommended soldering condition of Renesas.

Renesas Technology Corp. Sales Strategic Planning Div. Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan

RENESAS SALES OFFICES

http://www.renesas.com

Refer to "**http://www.renesas.com/en/network**" for the latest and detailed information.

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Colophon .2.0