CE2F3P-T-AZ Datasheet

DiGi Electronics Part Number	CE2F3P-T-AZ-DG
Manufacturer	Renesas Electronics Corporation
Manufacturer Product Number	CE2F3P-T-AZ
Description	TRANS PREBIAS NPN 60V 2A
Detailed Description	Pre-Biased Bipolar Transistor (BJT) NPN - Pre-Biased 60 V 2 A 1 W Through Hole

https://www.DiGi-Electronics.com

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
CE2F3P-T-AZ	Renesas Electronics Corporation
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
NPN - Pre-Biased	2 A
Voltage - Collector Emitter Breakdown (Max):	Resistor - Base (R1):
60 V	2.2 kOhms
Resistor - Emitter Base (R2):	DC Current Gain (hFE) (Min) @ Ic, Vce:
10 kOhms	1000 @ 1A, 5V
Vce Saturation (Max) @ Ib, Ic:	Current - Collector Cutoff (Max):
-	100nA
Power - Max:	Mounting Type:
1 W	Through Hole
Package / Case:	
3-SSIP	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
ECCN:	HTSUS:
EAR99	8541.29.0095

To our customers,

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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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DATA SHEET

RENESAS

COMPOUND TRANSISTOR
CE2F3P

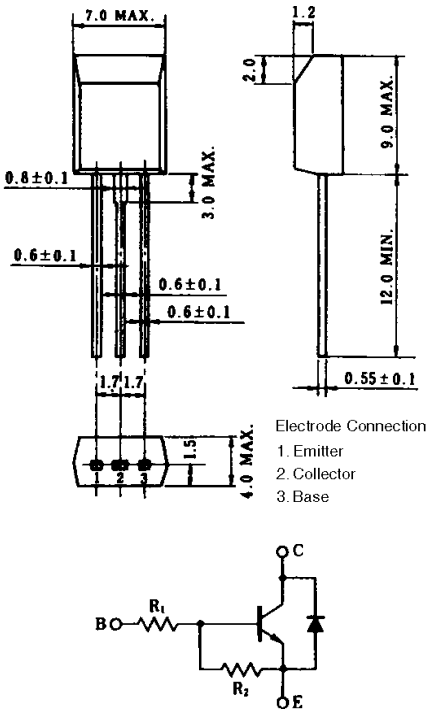
on-chip resistor NPN silicon epitaxial transistor
For mid-speed switching

The CE2F3P is a transistor of on-chip high hFE resistor incorporating dumper diode in collector to emitter as protect elements. This transistor is ideal for actuator drives of OA equipments and electric equipments.

FEATURES

- On-chip bias resistor: R_1 = 2.2 kΩ, R_2 = 10 kΩ
- Low power consumption during driving:
  V_{OL} = 0.12 V @V_I = 5.0 V, I_C = 0.5 A
- On-chip dumper diode for reverse cable

PACKAGE DRAWING (UNIT: mm)



ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	60	V
Collector to emitter voltage	V_{CEO}	60	V
Emitter to base voltage	V_{EBO}	15	V
Collector current (DC)	$I_{C(DC)}$	±2.0	A
Collector current (Pulse)	$I_{C(pulse)}$ *	±3.0	A
Base current (DC)	$I_{B(DC)}$	0.03	A
Total power dissipation	P_T	1.0	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

* PW ≤ 10 ms, duty cycle ≤ 50 %

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 40 V, I_E = 0			100	nA
DC current gain	h_{FE1} **	V_{CE} = 5.0 V, I_C = 0.2 A	700	1200		–
DC current gain	h_{FE2} **	V_{CE} = 5.0 V, I_C = 1.0 A	1000	1600	3000	–
DC current gain	h_{FE3} **	V_{CE} = 5.0 V, I_C = 2.0 A	500	1200		–
Low level output voltage	V_{OL} **	V_I = 5.0 V, I_C = 0.5 A		0.12	0.3	V
Low level input voltage	V_{IL} **	V_{CE} = 12 V, I_C = 100 μA		0.5	0.4	V
Input resistance 1	R_1		1.54	2.2	2.86	kΩ
Input resistance 2	R_2		7.0	10.0	13.0	kΩ
Turn-on time	t_{on}	I_C = 1.0 A		0.4		μs
Storage time	t_{stg}	I_{BI} = −I_{B2} = 10 mA		1.4		μs
Fall time	t_f	V_{CC} = 20 V, R_L = 20 Ω		0.5		μs

** Pulse test PW ≤ 350 μs, duty cycle ≤ 2 %

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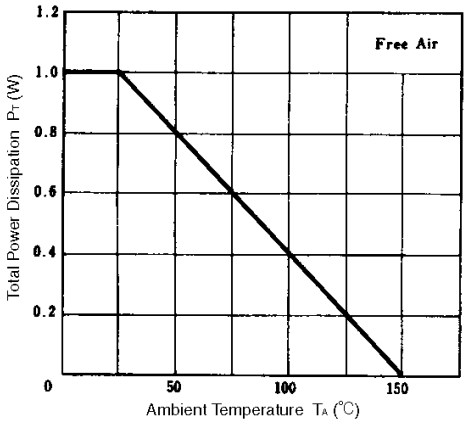
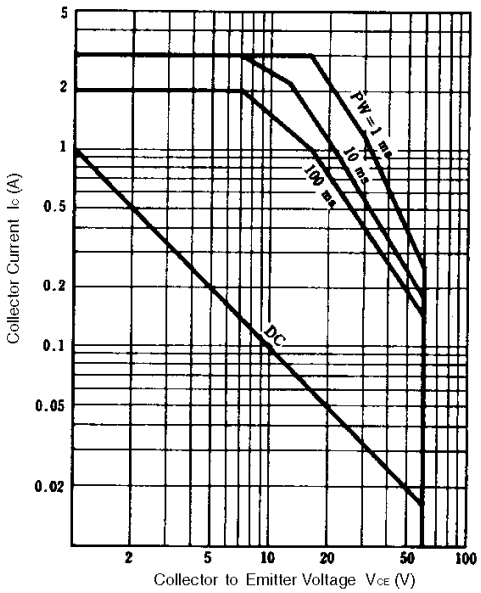
Date Published April 2002 N CP(K)
Printed in Japan

TYPICAL CHARACTERISTICS (T_a = 25°C)

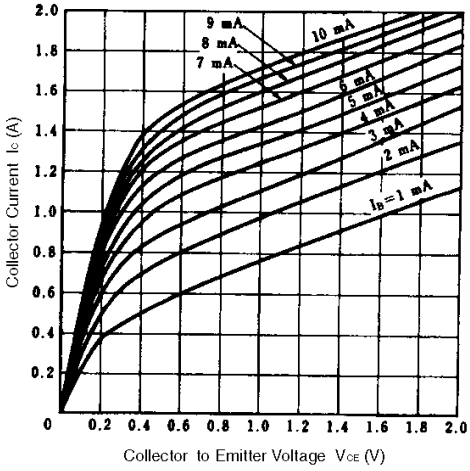
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



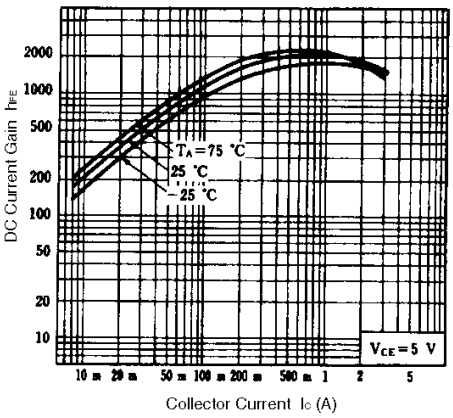
SAFE OPERATING AREA



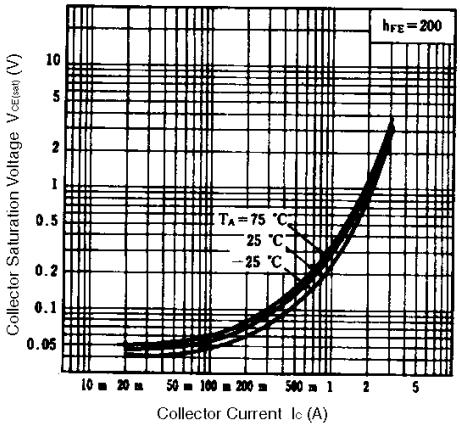
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



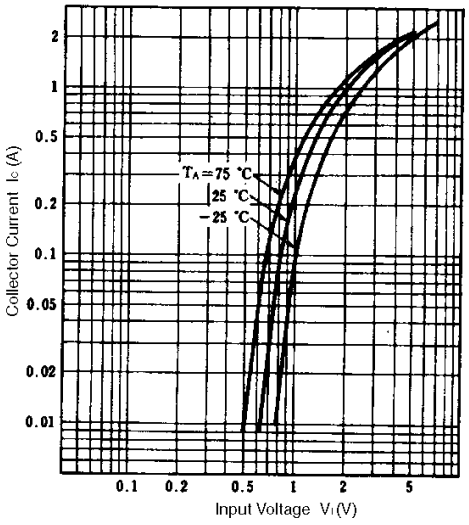
DC CURRENT GAIN vs. COLLECTOR CURRENT



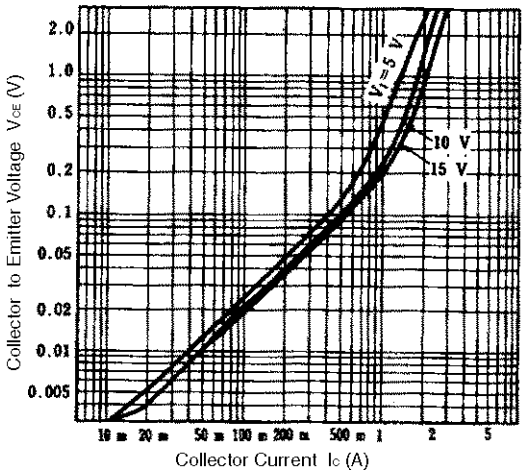
COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



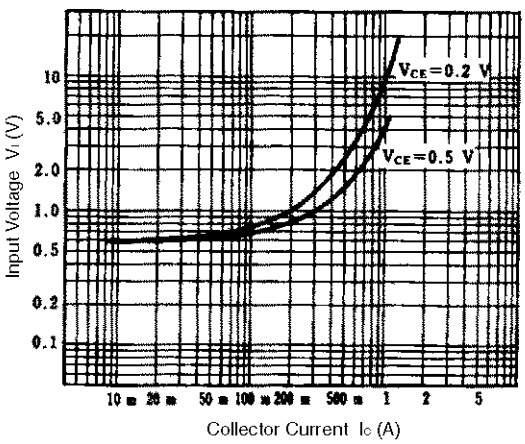
COLLECTOR CURRENT vs. INPUT VOLTAGE



COLLECTOR TO EMITTER VOLTAGE vs.
COLLECTOR CURRENT



INPUT VOLTAGE vs. COLLECTOR CURRENT



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