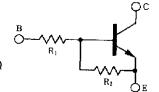


COMPOUND TRANSISTOR BA1A3Q

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

FEATURES

• On-chip bias resistor (R₁ = 1.0 k Ω , R₂ = 10 k Ω)



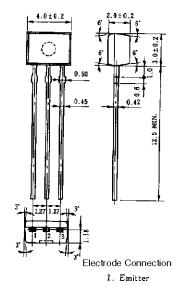
· Complementary transistor with BN1A3Q

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Parameter	Symbol	Ratings	Unit	
Collector to base voltage	Vcво	60	V	
Collector to emitter voltage	VCEO	50	٧	
Emitter to base voltage	VEBO	5	V	
Collector current (DC)	Ic(DC)	100	mA	
Collector current (Pulse)	Ic(pulse) *	200	mA	
Total power dissipation	Рт	250	mW	
Junction temperature	Tj	150	°C	
Storage temperature	T _{stg}	-55 to +150	°C	

^{*} PW \leq 10 ms, duty cycle \leq 50 %

PACKAGE DRAWING (UNIT: mm)



- 2. Collector
- 3. Base

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

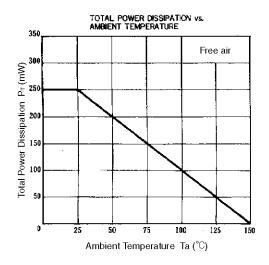
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Collector cutoff current	Ісво	V _{CB} = 50 V, I _E = 0			100	nA
DC current gain	h _{FE1} **	Vce = 5.0 V, Ic = 5.0 mA	35	60	100	_
DC current gain	hFE2 **	Vce = 5.0 V, Ic = 50 mA	80	230		_
Collector saturation voltage	V _{CE(sat)} **	Ic = 5.0 mA, Iв = 0.25 mA		0.05	0.2	V
Low level input voltage	VIL **	$V_{CE} = 5.0 \text{ V}, \text{ Ic} = 100 \ \mu\text{A}$		0.7	0.5	V
High level input voltage	V _{IH} **	Vce = 0.2 V, Ic = 5.0 mA	2.0	1.0		V
Input resistance	R ₁		0.7	1.0	1.3	kΩ
E-to-B resistance	R ₂		7	10	13	kΩ
Turn-on time	ton	V cc = 5 V , R L = 1 $k\Omega$			0.2	μs
Storage time	tstg	$V_1 = 5 \text{ V}, \text{ PW} = 2 \mu \text{s}$			5.0	μs
Turn-off time	toff	duty cycle≤2 %			6.0	μs

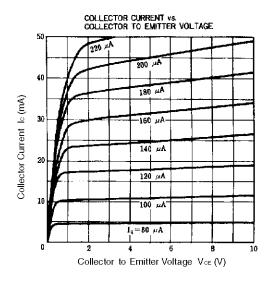
^{**} PW \leq 350 μ s, duty cycle \leq 2 %

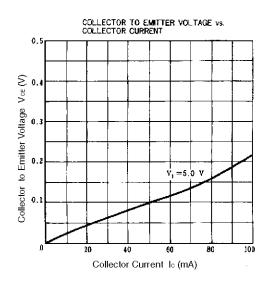
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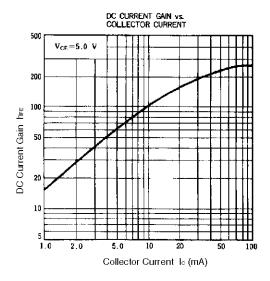


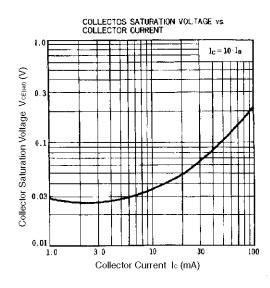
TYPICAL CHARACTERISTICS (Ta = 25°C)

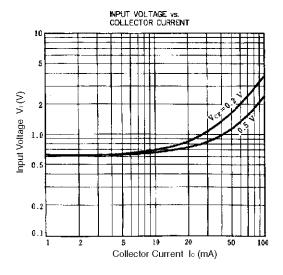


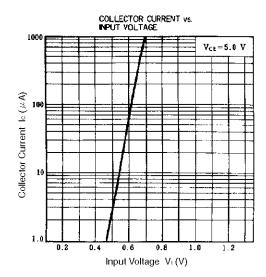


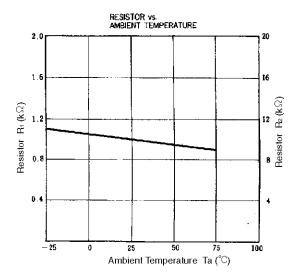












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