NPN Transistor

multicomp PRO

RoHS

Compliant



Description

NPN general purpose transistors in Surface-Mounted Device (SMD) plastic packages

Features

- General-purpose transistors
- SMD plastic packages
- Two different gain selections
- High current gain
- · Excellent hFE linearity
- Low noise between 30Hz and 15kHz
- · For AF input stages and driver applications

Applications

General-purpose switching and amplification.

Max. Ratings & Characteristics : TA = 25°C unless otherwise specified

Parameter	Symbol	Values	Unit
Collector - Base Voltage	Vсво	80	
Collector - Emitter Voltage	Vceo	65	V
Emitter - Base Voltage	Vebo	6	
Collector Current - Continuous	lc	0.1	А
Collector Dissipation	Pc	250	mW
Thermal Resistance, Junction to Ambient	Reja	417	°C/W
Junction and Storage Temperature	Тј , Тѕтс	-55 to +150	°C

Max. Ratings & Characteristics : TA = 25°C unless otherwise specified

Parameter	Symbol	Test Conditions	Min.	Тур.	Max.	Unit
Collector - Base Breakdown Voltage	V(br)cbo	Ic=-10μΑ Ιε=0	80	-	-	V
Collector - Emitter Breakdown Voltage	V(BR)CEO	Ic=-10mA IB=0	65	-	-	V
Emitter - Base Breakdown Voltage	V(br)ebo	Iε =10μΑ Ic=0	6	-	-	V
Collector Base Cut-off Current	Ісво	V _{CB} = 30V, I _E =0 V _{CB} = 30V, I _E = 0, T _J =150°C	-	-	15 5	nA uA
Emitter Base Cut-off Current	Іево	VEB = -5V, IC = 0	-	-	100	μA
DC Current Gain BC846A BC846B	hfe	Vce = 5V, Ic = -2mA	-	90 150	-	-
DC Current Gain BC846 BC846A BC846B	hfe	Vce = 5V, Ic = 10µA	110 110 200	-	450 220 450	-

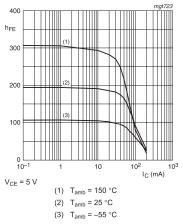
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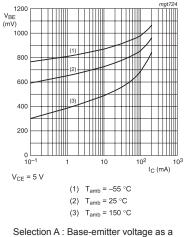
Parameter	Symbol	Test Conditions	Min.	Тур.	Max.	Unit
Collector - Emitter Saturation Voltage	VCE(SAT)	Ic = 10mA, Iв = 0.5mA Ic = 10mA, Iв = 5mA	-	0.09 0.2	0.25 0.6	
Base - Emitter Saturation Voltage	VBE(SAT)	Ic = 10mA, Iв = 0.5mA Ic = 100mA, Iв = 5mA	-	0.7 0.9	-	V
Base Emitter Voltage	VBE(ON)	Ic = 2mA, Vce = 5V Ic = 10mA, Vce = 5V	0.58 -	0.66 -	0.7 0.77	
Collector Capacitance	Cc	Vсв = 10V, Ie=Ie=0 f=1MHz	-	2.5	-	pF
Transition Frequency	Fτ	Vce = -5V, lc=10mA, f=100MHz	100	-	-	MHz

Typical Characteristics : TA = 25°C unless otherwise specified

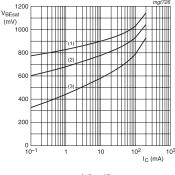
Ratings & Characteristic Curves



Selection A : DC current gain as a function of collector current; typical values



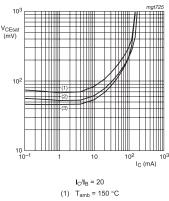
Selection A : Base-emitter voltage as a function of collector current; typical values



 $I_C/I_B = 10$ (1) $T_{amb} = -55 \ ^{\circ}C$ (2) $T_{amb} = 25 \ ^{\circ}C$ (3) $T_{amb} = 150 \ ^{\circ}C$

Selection A : Base-emitter saturation voltage as a function of collector current; typical values

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(2) $T_{amb} = 25 \circ C$

(3) T_{amb} = -55 °C

Selection A : Collector-emitter saturation voltage as a function of collector current; typical values

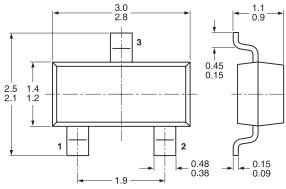


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Package Outline

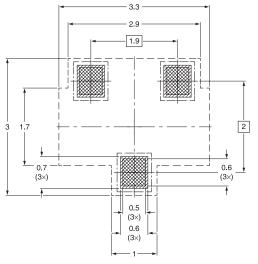
Plastic surface mounted package

Package outline SOT23



Dimensions : Millimetres

Soldering Footprint



Dimensions : Millimetres

solder lands	solder paste
solder resist	occupied area

Package Information

Device	Package	Shipping
BC846 BC846A BC846B	SOT-23	3,000 / Tape & Reel

Part Number Table

Description	Identifier	Part Number
Transistor, NPN, 0.1A, 65V, SOT23	1B	BC846
	1A	BC846A
	part number + 1B	BC846B

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