

# BC846S-TP Datasheet

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DiGi Electronics Part Number	BC846S-TP-DG
Manufacturer	<a href="#">Micro Commercial Co</a>
Manufacturer Product Number	BC846S-TP
Description	DUALNPN SMALLSIGNALTRANSISTORSOT-
Detailed Description	Bipolar (BJT) Transistor Array 2 NPN (Dual) 65V 100 mA 100MHz 200mW Surface Mount SOT-363



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## Purchase and inquiry

Manufacturer Product Number:

BC846S-TP

Series:

-

Transistor Type:

2 NPN (Dual)

Voltage - Collector Emitter Breakdown (Max):

65V

Current - Collector Cutoff (Max):

15nA (ICBO)

Power - Max:

200mW

Operating Temperature:

-55°C ~ 150°C (TJ)

Package / Case:

6-TSSOP, SC-88, SOT-363

Base Product Number:

BC846

Manufacturer:

Micro Commercial Co

Product Status:

Active

Current - Collector (Ic) (Max):

100mA

Vce Saturation (Max) @ Ib, Ic:

300mV @ 5mA, 100mA

DC Current Gain (hFE) (Min) @ Ic, Vce:

110 @ 2mA, 5V

Frequency - Transition:

100MHz

Mounting Type:

Surface Mount

Supplier Device Package:

SOT-363

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.21.0075

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

## Features

- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings @ 25°C Unless Otherwise Specified

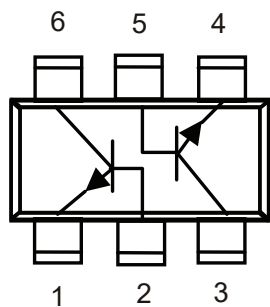
Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	80	V
Collector-Emitter Voltage	$V_{CEO}$	65	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_C$	100	mA
Power Dissipation	$P_D$	200	mW

## Thermal characteristics

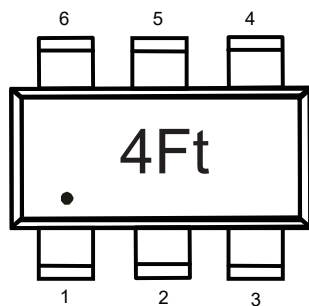
Parameter	Symbol	Rating	Unit
Operating Junction Temperature Range	$T_{OPR}$	-55~+150	°C
Storage Temperature Range	$T_{STR}$	-55~+150	°C
Thermal Resistance from Junction to Ambient	$R_{th(j-a)}$	625	°C/W

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

## Internal Structure

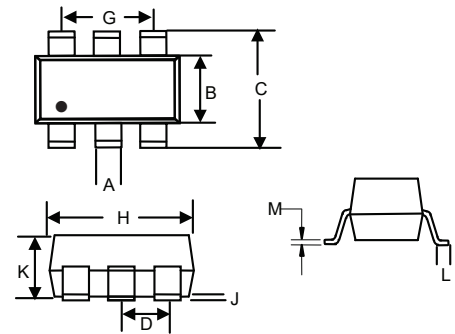


## Marking Code



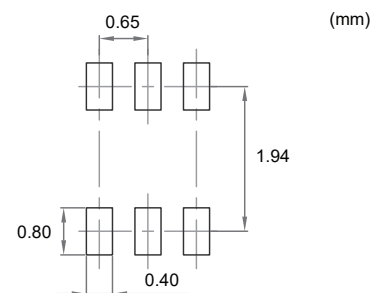
## Dual NPN Small Signal Transistors

### SOT-363



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.006	0.014	0.15	0.35	
B	0.045	0.053	1.15	1.35	
C	0.079	0.096	2.00	2.45	
D	0.026		0.65		TYP.
G	0.047	0.055	1.20	1.40	
H	0.071	0.087	1.80	2.20	
J	-----	0.004	-----	0.10	
K	0.031	0.043	0.80	1.10	
L	0.010	0.018	0.26	0.46	
M	0.003	0.006	0.08	0.15	

### Suggested Solder Pad Layout

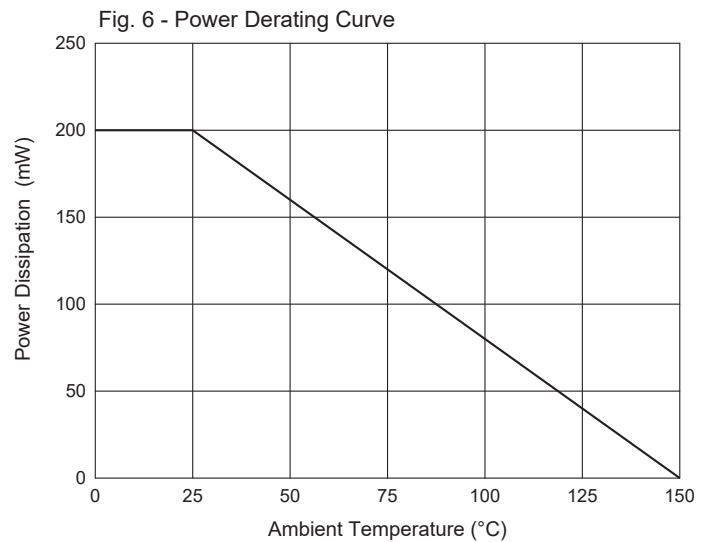
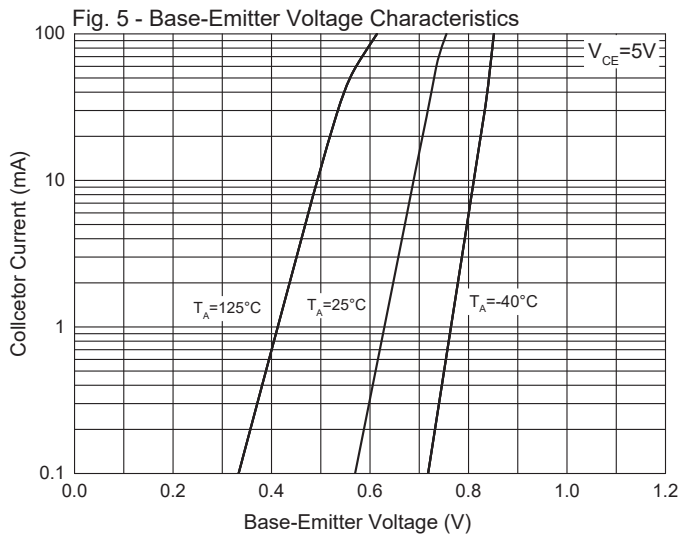
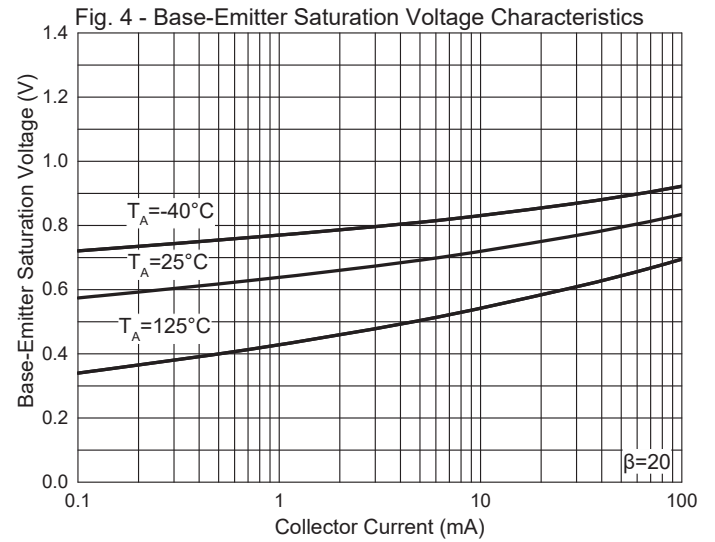
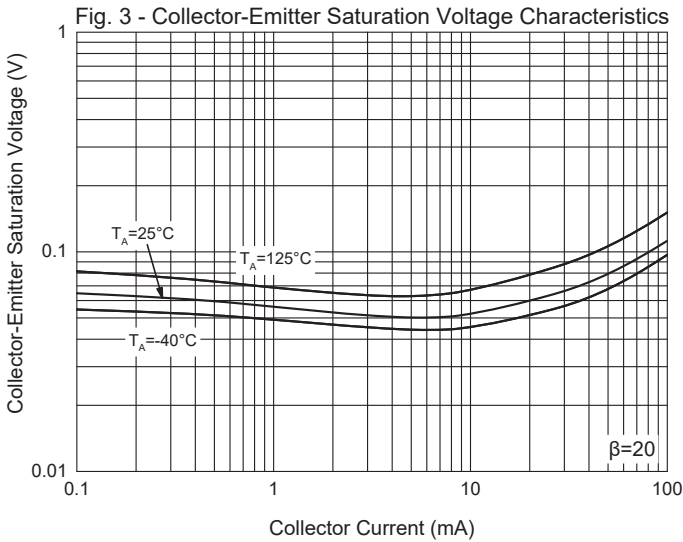
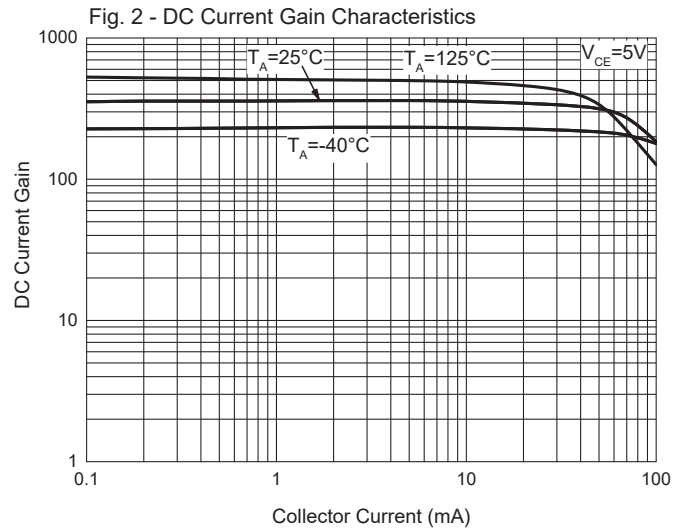
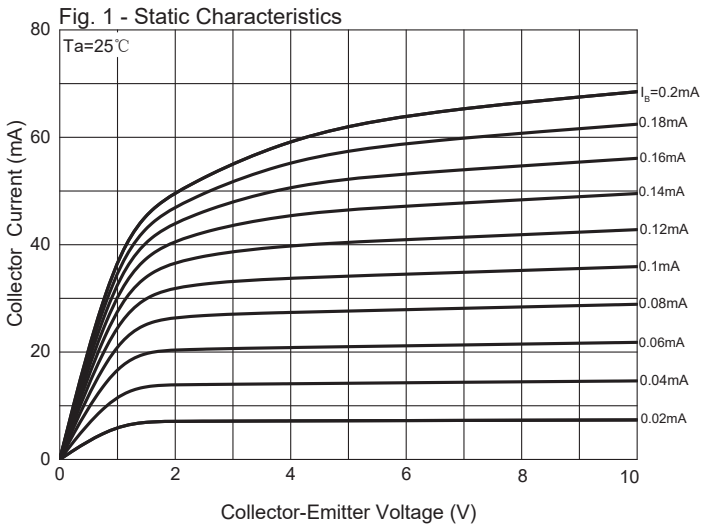


## Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	80			V	$I_C=10\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	65			V	$I_C=10mA, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6			V	$I_E=10\mu A, I_C=0$
Collector-Base Cutoff Current	$I_{CBO}$			15	nA	$V_{CB}=30V, I_E=0$
Emitter-Base Cutoff Current	$I_{EBO}$			100	nA	$V_{EB}=5V, I_C=0$
DC Current Gain <sup>(Note2)</sup>	$h_{FE}$	BC846S	110			$V_{CE}=5V, I_C=2mA$
		BC846BS	200	450		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.1	V	$I_C=10mA, I_B=0.5mA$
				0.3	V	$I_C=100mA, I_B=5mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			0.85	V	$I_C=10mA, I_B=0.5mA$
Base-Emitter Voltage	$V_{BE}$			0.7	V	$V_{CE}=5V, I_C=2mA$
				0.77	V	$V_{CE}=5V, I_C=10mA$
Transition Frequency	$f_T$	80			MHz	$V_{CE}=5V, I_C=10mA, f=100MHz$
Output Capacitance	$C_{ob}$			4.6	pF	$V_{CB}=10V, I_E=0, f=1MHz$

Note: 2.Pluse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2.0\%$

Curve Characteristics



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/Reel
Part Number-13P	Tape&Reel:10Kpcs/Reel
Part Number-TPQ2	Tape&Reel:3Kpcs/Reel

For packaging details, go to our website at <https://www.mccsemi.com/pdf/ProductPackaging/SOT-363%20Package.pdf>

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