BC846S-TPQ2 Datasheet

DiGi Electronics Part Number	BC846S-TPQ2-DG
Manufacturer	Micro Commercial Co
Manufacturer Product Number	BC846S-TPQ2
Description	Interface
Detailed Description	Bipolar (BJT) Transistor Array 2 NPN 65V 100mA 100 MHz 200mW Surface Mount SOT-363

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
BC846S-TPQ2	Micro Commercial Co
Series:	Product Status:
-	Active
Transistor Type:	Current - Collector (Ic) (Max):
2 NPN	100mA
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
65V	300mV @ 5mA, 100mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
15nA (ICBO)	110 @ 2mA, 5V
Power - Max:	Frequency - Transition:
200mW	100MHz
Operating Temperature:	Mounting Type:
-55°C ~ 150°C (TJ)	Surface Mount
Package / Case:	Supplier Device Package:
6-TSSOP, SC-88, SOT-363	SOT-363
Base Product Number:	
BC846	

Environmental & Export classification

REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.21.0075	

Micro Commercial Components

BC846S/BC846BS

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)

Dual NPN Small Signal Transistors

Maximum Ratings @ 25°C Unless Otherwise Specified

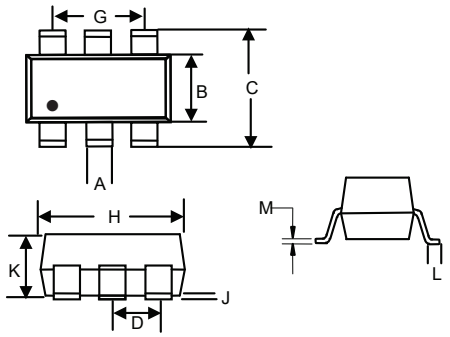
Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	65	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	100	mA
Power Dissipation	P_D	200	mW

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	$Rth_{(j-a)}$	625	°C/W

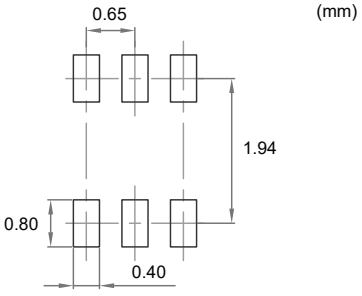
Note: 1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

SOT-363

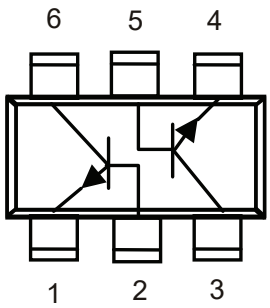


DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.006	0.014	0.15	0.35	
B	0.045	0.053	1.15	1.35	
C	0.079	0.096	2.00	2.45	
D	0.026		0.65		TYP.
G	0.047	0.055	1.20	1.40	
H	0.071	0.087	1.80	2.20	
J	-----	0.004	-----	0.10	
K	0.031	0.043	0.80	1.10	
L	0.010	0.018	0.26	0.46	
M	0.003	0.006	0.08	0.15	

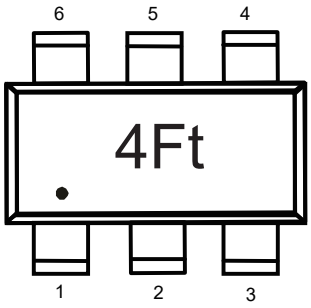
Suggested Solder Pad Layout



Internal Structure



Marking Code



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=10μA, 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=10μA, 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(Note2) BC846S	h_{FE}	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	VCE=5V, I_C=2mA
				0.77	V	VCE=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 ≤ 300μs, Duty Cycle ≤ 2.0%

Curve Characteristics

Fig. 1 - Static Characteristics

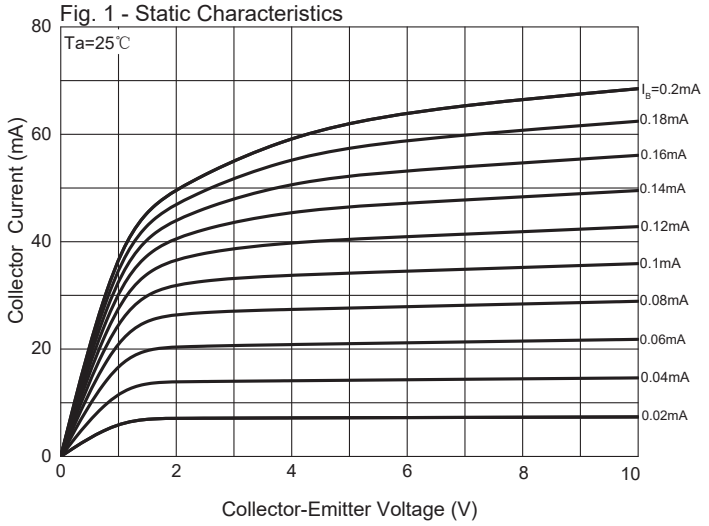


Fig. 2 - DC Current Gain Characteristics

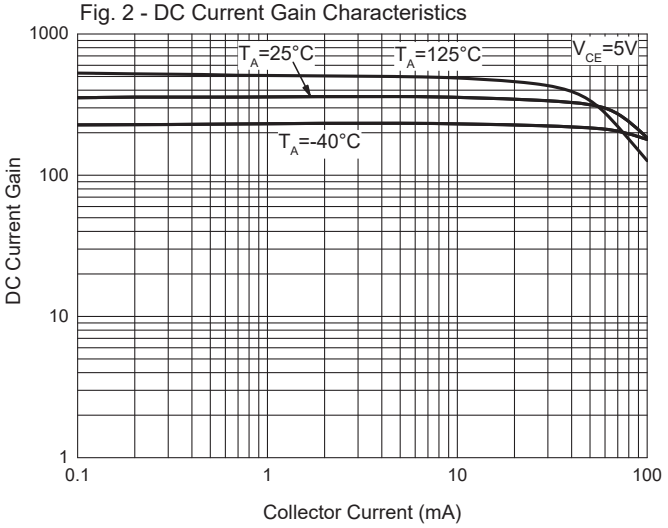


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

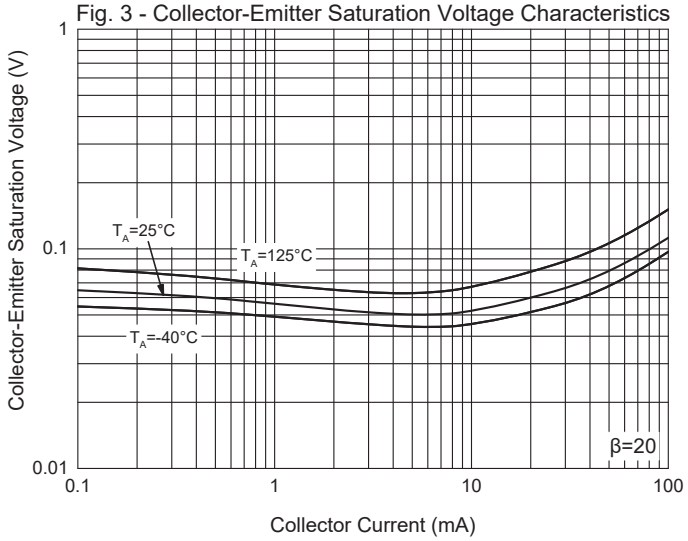


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

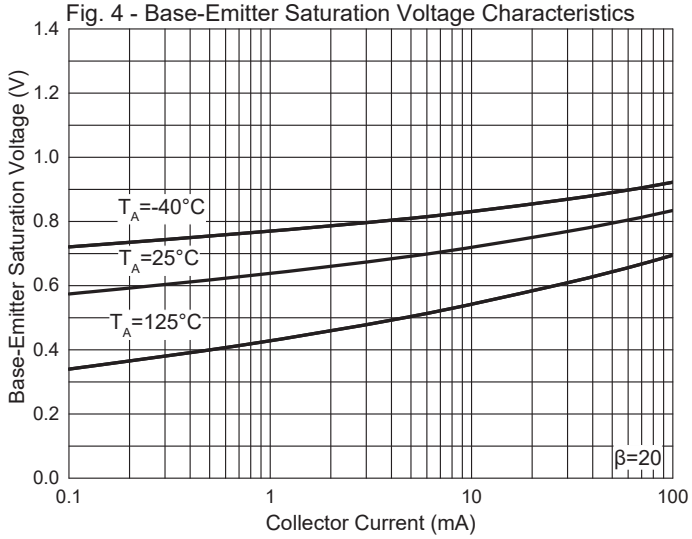


Fig. 5 - Base-Emitter Voltage Characteristics

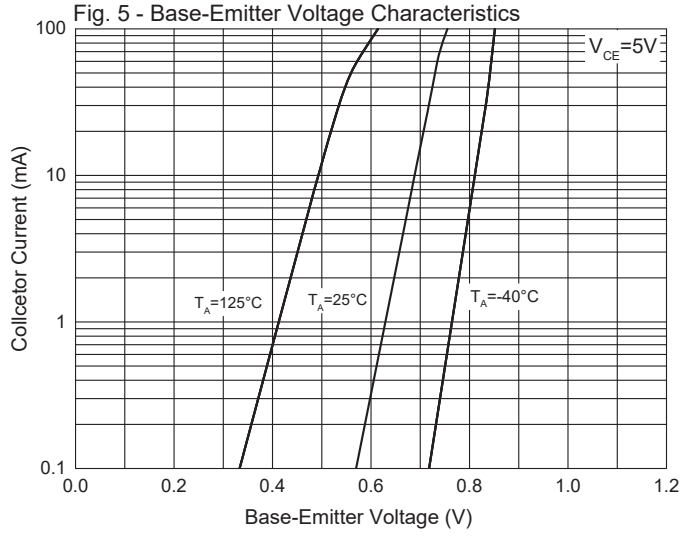
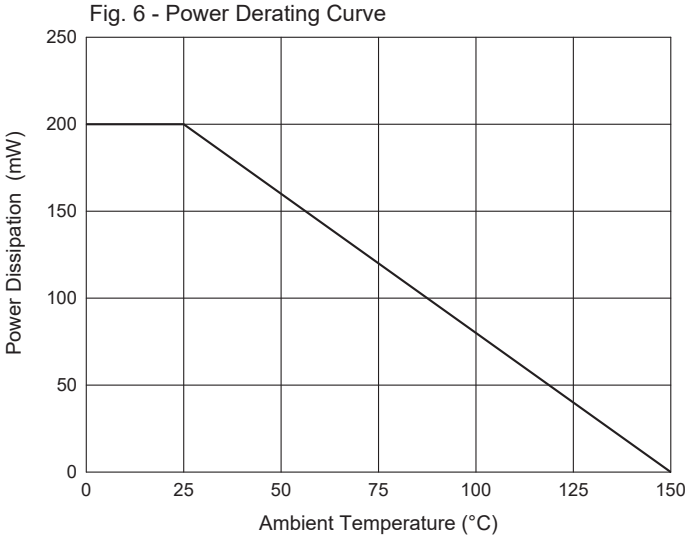


Fig. 6 - Power Derating Curve



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

OUR CERTIFICATE

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