

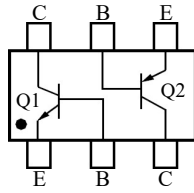
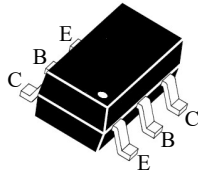


BC8017-16DH / -25DH / -40DH

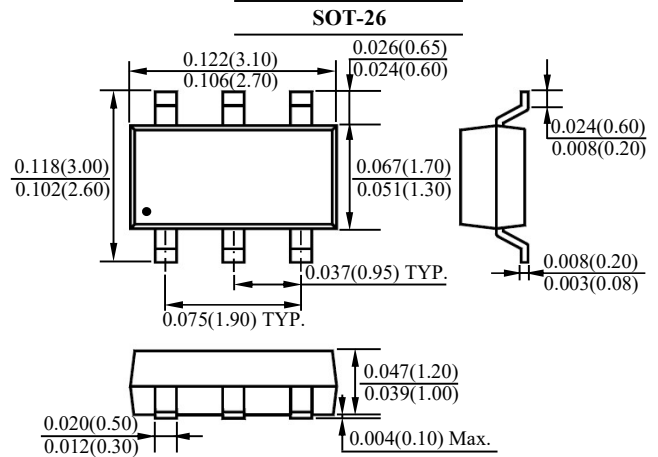
NPN / PNP TRANSISTORS

FEATURES

· Suffix "H" indicates Halogen-free parts, ex. BC8017-16DH.



B	Base
C	Collector
E	Emitter



Dimensions in inch and (millimeter)

Q1 NPN Maximum Ratings ($T_A=25\text{ }^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	50	V
Collector Emitter Voltage	V_{CEO}	45	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	500	mA
Peak Collector Current	I_{CM}	1	A

Q2 PNP Maximum Ratings ($T_A=25\text{ }^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	-50	V
Collector Emitter Voltage	V_{CEO}	-45	V
Emitter Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-500	mA
Peak Collector Current	I_{CM}	-1	A

Q1 NPN / Q2 PNP Maximum Ratings ($T_A=25\text{ }^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	(Note 1)	370
		(Note 2)	600
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	(Note 1)	338
		(Note 2)	208
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Note:

1. Device mounted on FR4 substrate PC board, 2oz copper, with minimum recommended pad layout.
2. Device mounted on FR4 substrate PC board, 2oz copper, with 1-inch square copper plate.



BC8017-16DH / -25DH / -40DH

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Q1 NPN Electrical Characteristics ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain	$V_{CE}=1V, I_C=100mA$	h_{FE}	100	-	250	-
			160	-	400	
	$V_{CE}=1V, I_C=500mA$		250	-	600	
			40	-	-	
Collector Base Cutoff Current	$V_{CB}=20V$	I_{CBO}	-	-	100	nA
Emitter Base Cutoff Current	$V_{EB}=5V$	I_{EBO}	-	-	100	nA
Collector Base Breakdown Voltage	$I_C=100\mu A$	$V_{(BR)CBO}$	50	-	-	V
Collector Emitter Breakdown Voltage	$I_C=1mA$	$V_{(BR)CEO}$	45	-	-	V
Emitter Base Breakdown Voltage	$I_E=100\mu A$	$V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage	$I_C=500mA, I_B=50mA$	$V_{CE(sat)}$	-	-	0.7	V
Base Emitter Saturation Voltage	$I_C=500mA, V_{CE}=1V$	$V_{BE(on)}$	-	-	1.2	V
Transition Frequency	$V_{CE}=5V, I_C=10mA, f=50MHz$	f_T	100	-	-	MHz
Collector Output Capacitance	$V_{CB}=10V, f=1MHz$	C_{ob}	-	5	-	pF

Q2 PNP Electrical Characteristics ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain	$V_{CE}=-1V, I_C=-100mA$	h_{FE}	100	-	250	-
			160	-	400	
	$V_{CE}=-1V, I_C=-500mA$		250	-	600	
			40	-	-	
Collector Base Cutoff Current	$V_{CB}=-20V$	I_{CBO}	-	-	-100	nA
Emitter Base Cutoff Current	$V_{EB}=-5V$	I_{EBO}	-	-	-100	nA
Collector Base Breakdown Voltage	$I_C=-100\mu A$	$V_{(BR)CBO}$	-50	-	-	V
Collector Emitter Breakdown Voltage	$I_C=-1mA$	$V_{(BR)CEO}$	-45	-	-	V
Emitter Base Breakdown Voltage	$I_E=-100\mu A$	$V_{(BR)EBO}$	-5	-	-	V
Collector Emitter Saturation Voltage	$I_C=-500mA, I_B=-50mA$	$V_{CE(sat)}$	-	-	-0.7	V
Base Emitter Saturation Voltage	$I_C=-500mA, V_{CE}=-1V$	$V_{BE(on)}$	-	-	-1.2	V
Transition Frequency	$V_{CE}=-5V, I_C=-10mA, f=50MHz$	f_T	80	-	-	MHz
Collector Output Capacitance	$V_{CB}=-10V, f=1MHz$	C_{ob}	-	9	-	pF



BC8017-16DH / -25DH / -40DH

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RATINGS AND CHARACTERISTIC CURVES

Q1 NPN

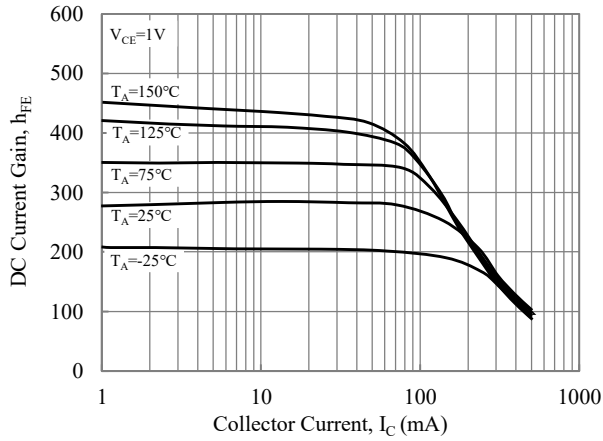


Fig. 1-Current Gain vs. Collector Current

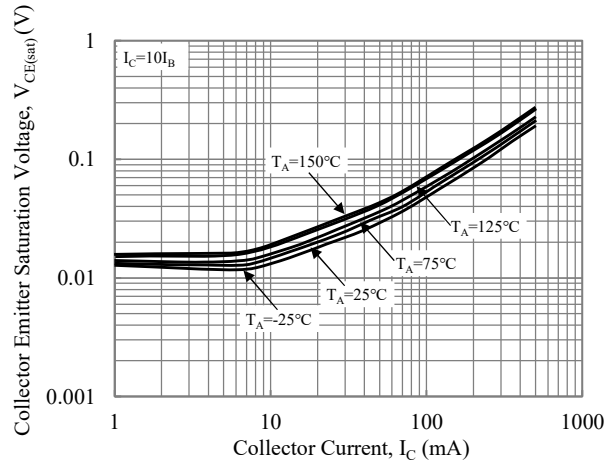


Fig. 2-Collector Emitter Saturation Voltage vs. Collector Current

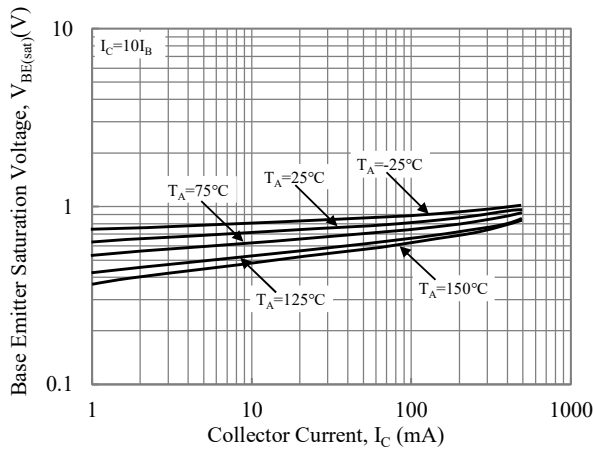


Fig. 3-Base Emitter Saturation Voltage vs. Collector Current

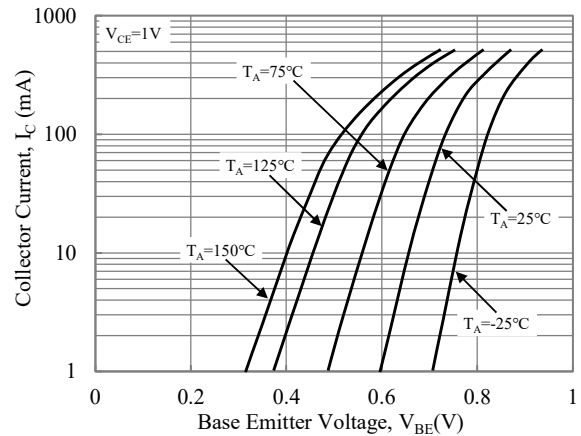


Fig. 4-Base Emitter Voltage vs. Collector Current

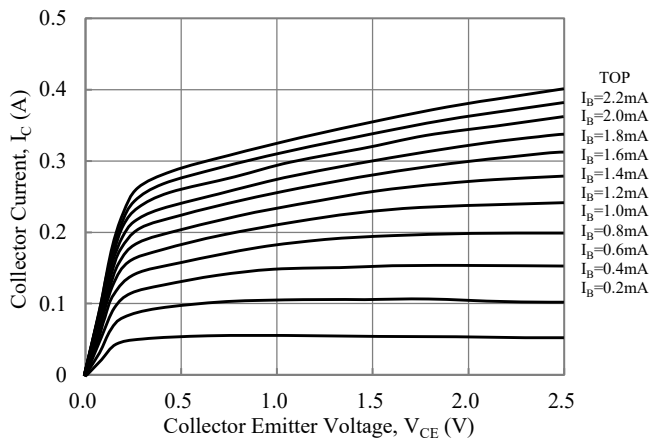


Fig. 5-Output Characteristics Curve

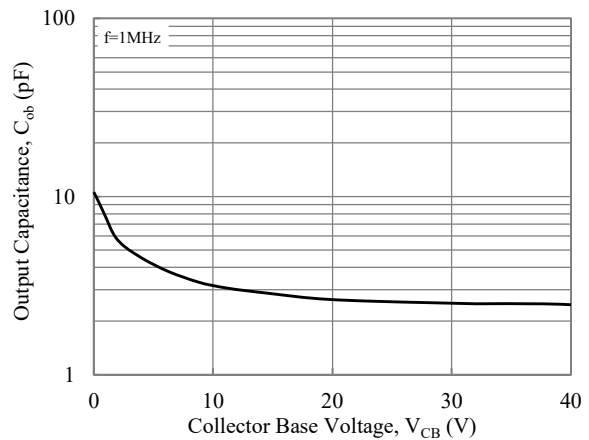


Fig. 6-Output Capacitance



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Q2 PNP

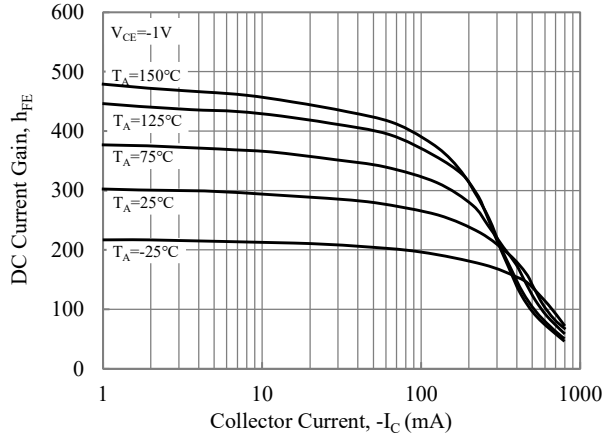


Fig. 7-Current Gain vs. Collector Current

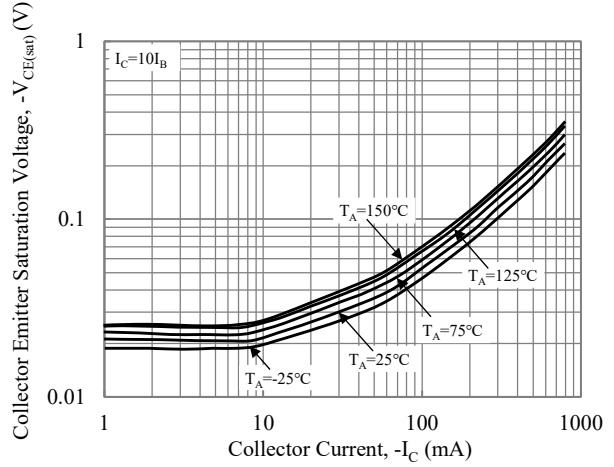


Fig. 8-Collector Emitter Saturation Voltage vs. Collector Current

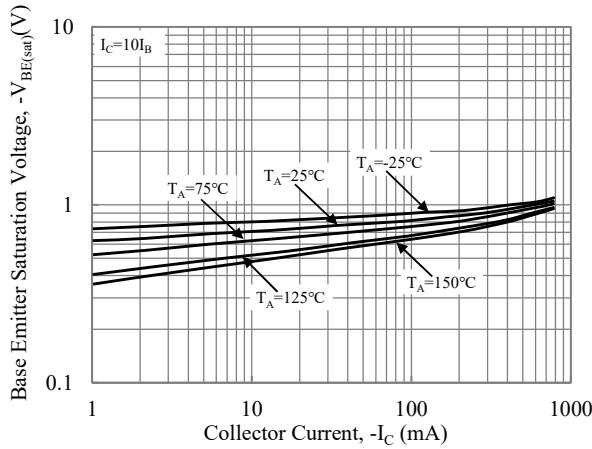


Fig. 9-Base Emitter Saturation Voltage vs. Collector Current

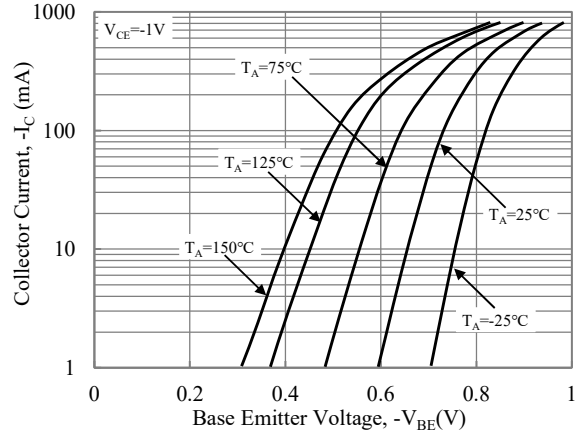


Fig. 10-Base Emitter Voltage vs. Collector Current

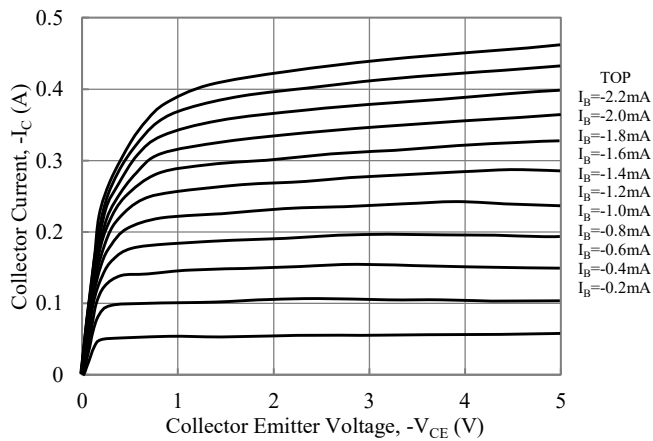


Fig. 11-Output Characteristics Curve

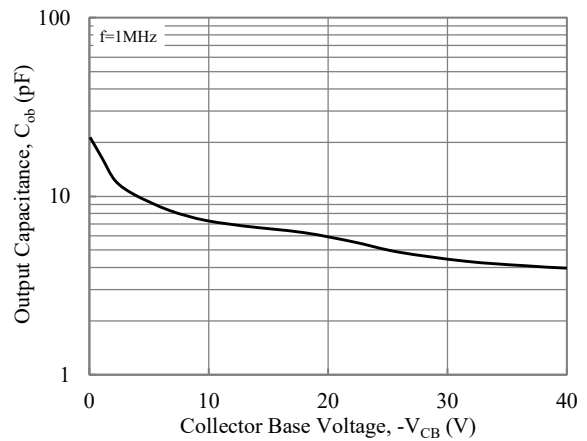


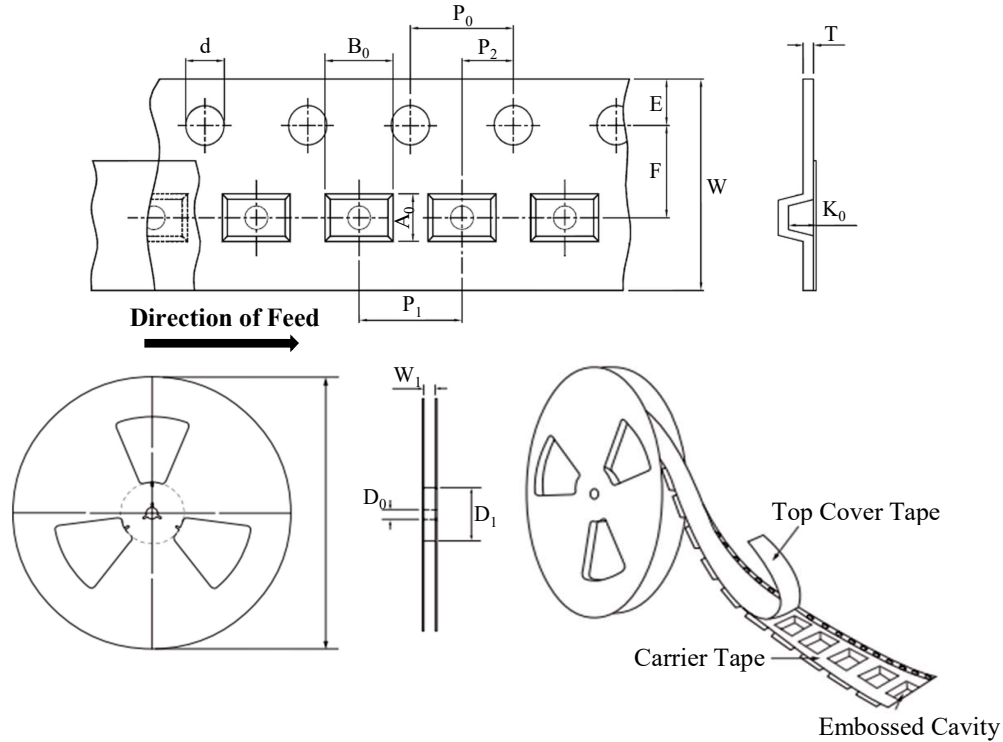
Fig. 12-Output Capacitance



BC8017-16DH / -25DH / -40DH

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TAPE & REEL SPECIFICATION



Item	Symbol	SOT-26
Carrier width	A_0	*
Carrier length	B_0	
Carrier depth	K_0	
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178.00 ± 2.00
Feed hole width	D_0	13.00 ± 0.50
Reel inner diameter	D_1	MIN. 50.00
Sprocket hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.10
Sprocket hole pitch	P_0	4.00 ± 0.10
Punch hole pitch	P_1	4.00 ± 0.10
Embossment center	P_2	2.00 ± 0.10
Overall tape thickness	T	0.60 ± 0.10
Tape width	W	8.00 ± 0.30
Reel width	W_1	MAX. 10.00

Note *: A_0 , B_0 , and K_0 are determined by component size. The clearance between the components and the cavity must be within 0.05 mm min. to 0.5 mm max.

ORDER INFORMATION

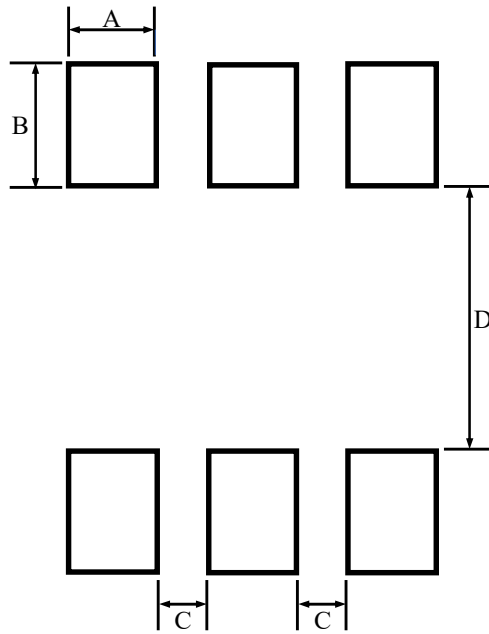
Part Number	Marking Code	Reel Size	Quantity
BC8017-16DH	8D	7"	3,000
BC8017-25DH	8E		
BC8017-40DH	8F		



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SUGGESTED SOLDER PAD LAYOUT



Unit :mm

PACKAGE	A	B	C	D
SOT-26	0.70	1.00	0.25	1.40