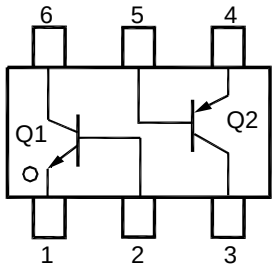
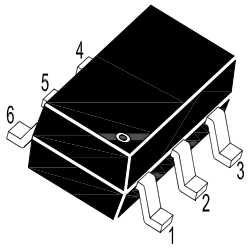
BC8456DW~BC8458DW-HAF

NPN / PNP Silicon Epitaxial Planar Transistors

Features

• Halogen and Antimony Free(HAF), RoHS compliant





1. Emitter 2. Base 3. Collector
4. Emitter 5. Base 6. Collector
SOT-363 Plastic Package

Q1 Maximum Ratings (T_a = 25℃)

Parameter	Symbol	Value	Unit
Collector Base Voltage			
BC8456DW	V_{CBO}	80	V
BC8457DW		50	
BC8458DW		30	
Collector Emitter Voltage			
BC8456DW	V_{CEO}	65	V
BC8457DW		45	
BC8458DW		30	
Emitter Base Voltage			
BC8456DW	V_{EBO}	6	V
BC8457DW		6	
BC8458DW		5	

Q2 Maximum Ratings (T_a = 25℃)

Parameter	Symbol	Value	Unit
Collector Base Voltage BC8456DW BC8457DW BC8458DW	$-V_{CBO}$	 80 50 30	V
Collector Emitter Voltage BC8456DW BC8457DW BC8458DW	$-V_{CEO}$	 65 45 30	V
Emitter Base Voltage	$-V_{EBO}$	5	V

Q1Q2 Maximum Ratings (T_a = 25℃)

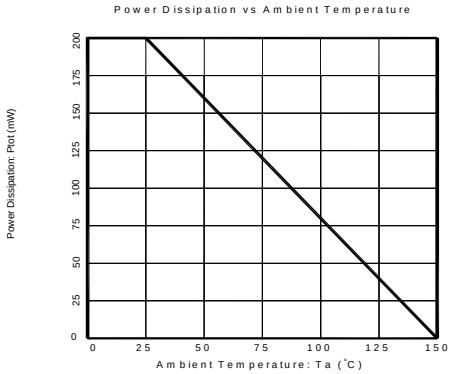
Parameter	Symbol	Value	Unit
Collector Current	I_C	100	mA
Peak Collector Current	I_{CM}	200	mA
Total Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	- 55 to + 150	℃

Q1 Electrial Characteristics at T_a = 25℃

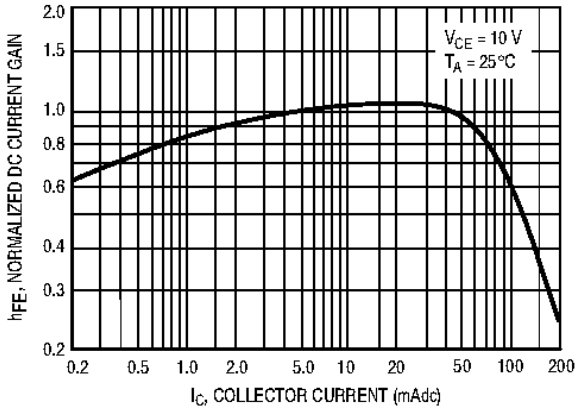
Parameter		Symbol	Min.	Max.	Unit
DC Current Gain					
at V_{CE} = 5 V, I_C = 2 mA	BC8456ADW~BC8458ADW	h_{FE}	110	220	-
	BC8456BDW~BC8458BDW	h_{FE}	200	450	-
	BC8456CDW~BC8458CDW	h_{FE}	420	800	-
Collector Base Voltageat					
at I_C = 10 μA	BC8456DW	V_{CBO}	80	-	V
	BC8457DW		50	-	
	BC8458DW		30	-	
Collector Emitter Voltage					
at I_C = 10 mA	BC8456DW	V_{CEO}	65	-	V
	BC8457DW		45	-	
	BC8458DW		30	-	
Emitter Base Voltage					
at I_E = 1 μA	BC8456DW	V_{EBO}	6	-	V
	BC8457DW		6	-	
	BC8458DW		5	-	
Collector Base Cutoff Current at V_{CB} = 30 V		I_{CBO}	-	15	nA
Emitter Base Cutoff Current at V_{EB} = 5 V		I_{EBO}	-	100	nA
Collector Emitter Saturation Voltage					
at I_C = 10 mA, I_B = 0.5 mA		$V_{CE(sat)}$	-	0.25	V
at I_C = 100 mA, I_B = 5 mA			-	0.6	
Base Emitter Voltage					
at V_{CE} = 5 V, I_C = 2 mA		V_{BE}	0.58	0.7	V
at V_{CE} = 5 V, I_C = 10 mA			-	0.77	
Transition Frequency at V_{CE} = 5 V, I_C = 10 mA, f = 100 MHz		f_T	100	-	MHz
Collector Output Capacitance at V_{CB} = 10 V, I_E = 0, f = 1 MHz		C_{ob}	-	4.5	pF

Q2 Electrial Characteristics at T_a = 25℃

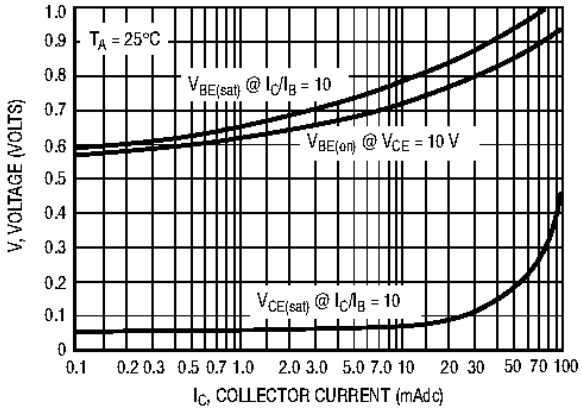
Parameter		Symbol	Min.	Max.	Unit
DC Current Gain at $-V_{CE}$ = 5 V, $-I_C$ = 2 mA	BC8456ADW~BC8458ADW BC8456BDW~BC8458BDW BC8456CDW~BC8458CDW	h_{FE} h_{FE} h_{FE}	125 220 420	250 475 800	- - -
Collector Base Voltage at $-I_C$ = 10 μA	BC8456DW BC8457DW BC8458DW	$-V_{CBO}$	80 50 30	- - -	V
Collector Emitter Voltage at $-I_C$ = 10 mA	BC8456DW BC8457DW BC8458DW	$-V_{CEO}$	65 45 30	- - -	V
Emitter Base Voltage at $-I_E$ = 1 μA		$-V_{EBO}$	5	-	V
Collector Base Cutoff Current at $-V_{CB}$ = 30 V		$-I_{CBO}$	-	15	nA
Emitter Base Cutoff Current at $-V_{EB}$ = 5 V		$-I_{EBO}$	-	100	nA
Collector Emitter Saturation Voltage at $-I_C$ = 10 mA, $-I_B$ = 0.5 mA $-I_C$ = 100 mA, $-I_B$ = 5 mA		$-V_{CE(sat)}$	- -	0.3 0.65	V
Base Emitter Voltage at $-V_{CE}$ = 5 V, $-I_C$ = 2 mA $-V_{CE}$ = 5 V, $-I_C$ = 10 mA		$-V_{BE}$	0.6 -	0.75 0.82	V
Transition Frequency at $-V_{CE}$ = 5 V, $-I_C$ = 10 mA, f = 100 MHz		f_T	100	-	MHz
Output Capacitance at $-V_{CB}$ = 10 V, I_E = 0, f = 1 MHz		C_{ob}	-	4.5	pF



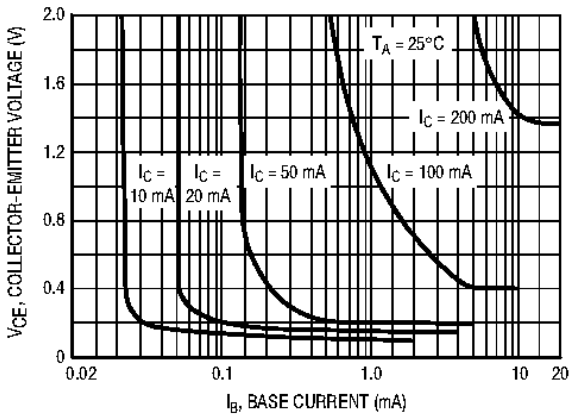
Q1(NPN transistor)



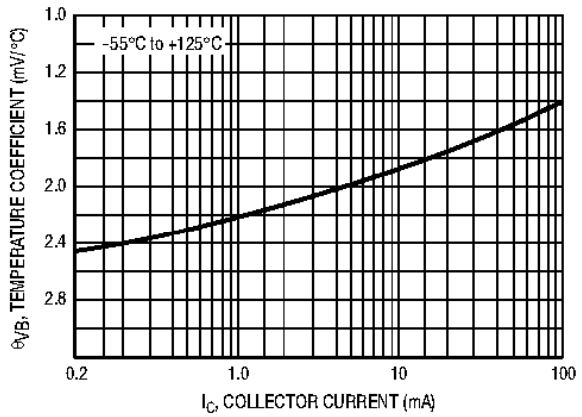
Normalized DC Current Gain



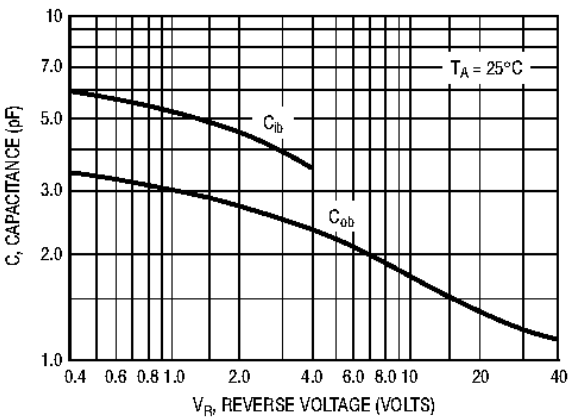
"Saturation" and "On" Voltages



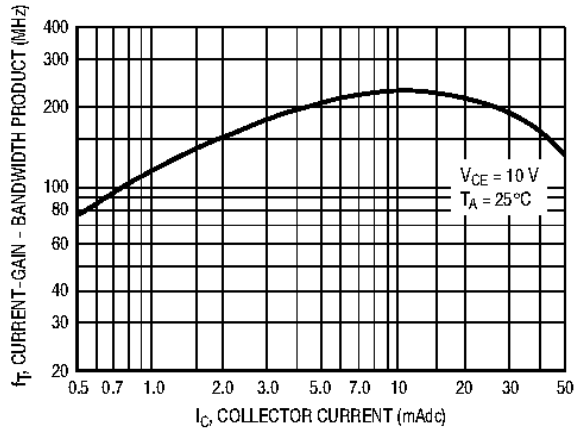
Collector Saturation Region



Base−Emitter Temperature Coefficient

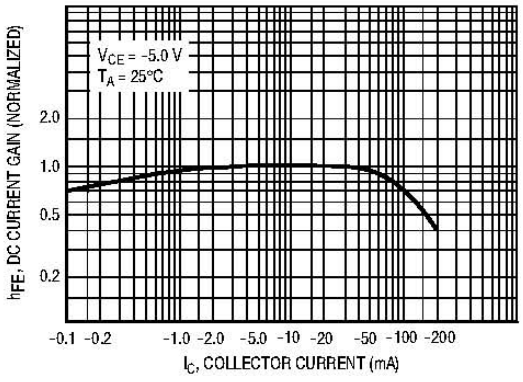


Capacitances

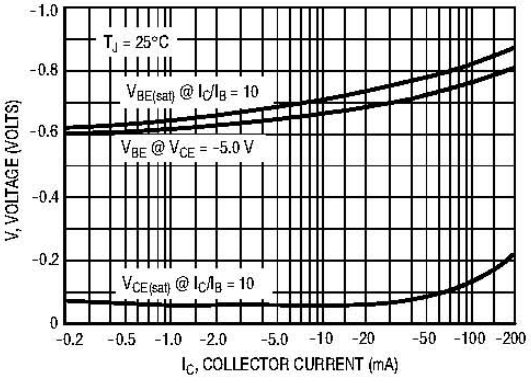


Current−Gain − Bandwidth Product

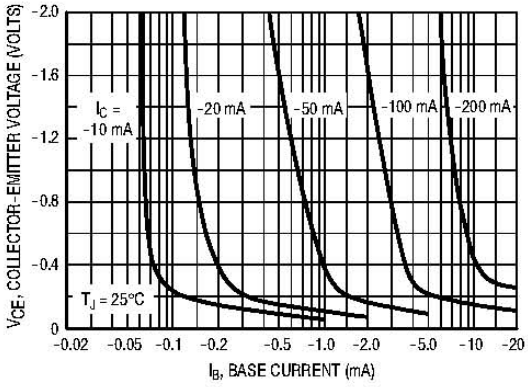
Q2(PNP transistor)



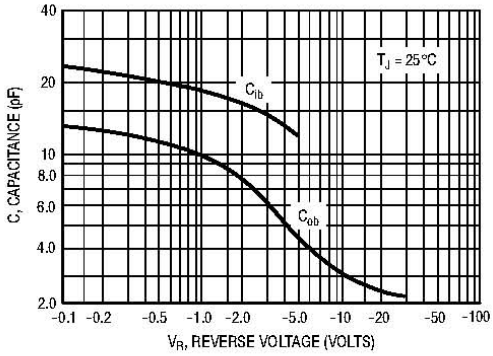
DC Current Gain



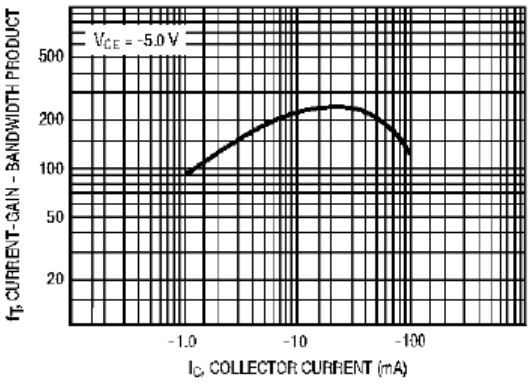
"On" Voltage



Collector Saturation Region

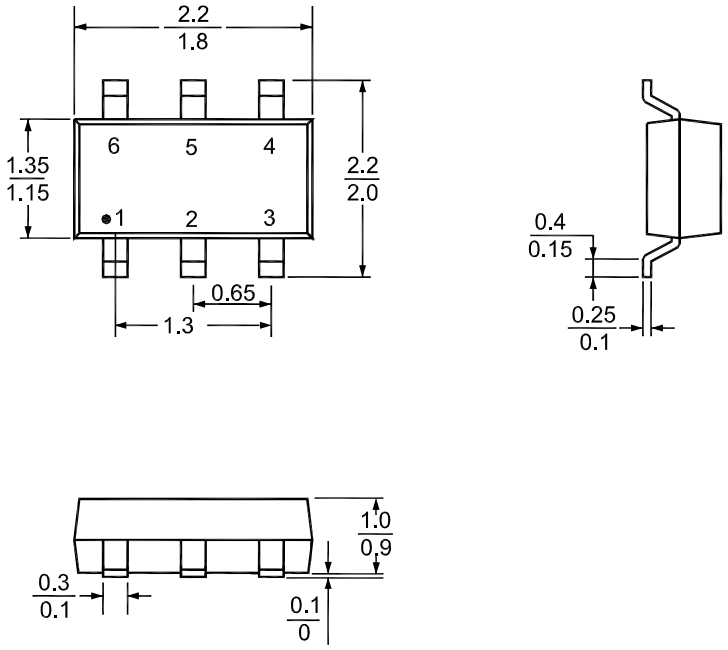


Capacitance

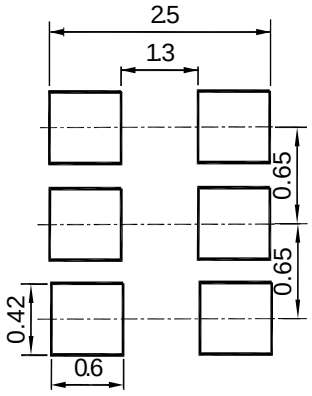


Current–Gain – Bandwidth Product

Package Outline Dimensions (Units: mm) **SOT-363**



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-363	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000