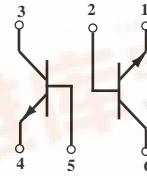


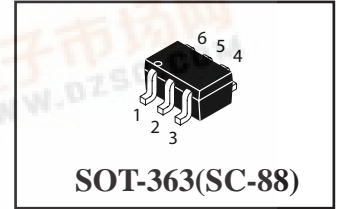


BC846BDW Series

**General Purpose Transistor
NPN Duals**



NPN+NPN



SOT-363(SC-88)

Maximum Ratings

Rating	Symbol	BC846	BC847	BC848	Unit
Collector-Emitter Voltage	V _{CEO}	65	45	30	V _{dc}
Collector-Base Voltage	V _{CBO}	80	50	30	V _{dc}
Emitter-Base Voltage	V _{EBO}	6.0	6.0	5.0	V _{dc}
Collector Current-Continuous	I _C	100	100	100	mA _{dc}

Thermal Characteristics

Characteristics	Symbol	Max	Unit
Total Device Dissipation Per Device FR-5 Board(1) T _A =25°C Derate Above 25°C	P _D	380 250 3.0	mW mW/°C
Thermal Resistance, Junction to Ambient	R _{θJA}	328	°C/W
Junction and Storage, Temperature	T _J , T _{stg}	-55 to +150	°C

Device Marking

BC846BDW=1B, BC847BDW=1F, BC848CDW=1L

Note:
FR-5=1.0×0.75×0.062 in



Electrical Characteristics (TA=25°C Unless Otherwise noted)

Characteristics	Symbol	Min	Typ	Max	Unit
Off C characteristics					
Collector-Emitter Breakdown Voltage (IC=10mAdc)	V(BR)CEO				Vdc
BC846		65	-	-	
BC847		45	-	-	
BC848		30	-	-	
Collector-Emitter Breakdown Voltage (IC=10 uAdc, VEB=0)	V(BR)CES				Vdc
BC846		80	-	-	
BC847		50	-	-	
BC848		30	-	-	
Emitter-Base Breakdown Voltage (IC=10 uAdc)	V(BR)CBO				Vdc
BC846		80	-	-	
BC847		50	-	-	
BC848		30	-	-	
Emitter-Base Breakdown Voltage (IE=1.0 uAdc)	V(BR)EBO				Vdc
BC846		6.0	-	-	
BC847		6.0	-	-	
BC848		5.0	-	-	
Collector Cutoff Current (VCB=30Vdc) (VCB=30Vdc, TA=150°C)	ICBO				nAdc uAdc
		-	-	15	
		-	-	5.0	

On Characteristics

DC Current Gain (IC= 10 uAdc, VCE=5.0Vdc)	BC846B,BC847B BC848C	HFE				
			-	150	-	-
			-	270	-	-
(IC= 2.0 mAdc, VCE= 5.0 Vdc)	BC846B,BC847B BC848C		200	290	450	
			420	520	800	
Collector-Emitter Saturation Voltage (IC= 10 mAdc, IB= 0.5 mAdc) (IC= 100 mAdc, IB= 5.0mAdc)		VCE(sat)				Vdc
			-	-	0.25	
			-	-	0.6	
Base-Emitter Saturation Voltage (IC= 10 mAdc, IB= 0.5 mAdc) (IC= 100 mAdc, IB= 5.0 mAdc)		VBE(sat)				Vdc
			-	0.7	-	
			-	0.9	-	
Base-Emitter Voltage (IC= 2.0 mAdc, VCE= 5.0 mAdc) (IC= 10 mAdc, VCE= 5.0 mAdc)		VBE(on)				mVdc
			580	660	700	
			-	-	770	

Small-Signal Characteristics

Current-Gain-Bandwidth Product (IC= 10 mAdc, VCE= 5.0 Vdc, f=100MHz)	fT	100			MHz
Output Capacitance (VCB= 10 Vdc, f=1.0MHz)	Cobo			4.5	pF
Noise Figure (VCE= 5.0Vdc, IC= 0.2 mAdc, RS=2.0k Ω, f=1.0kHz, BW=200Hz)	NF			5.0	dB

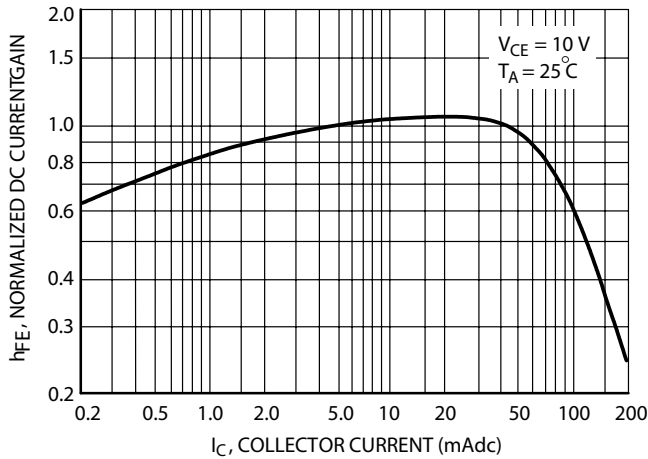


FIG.1 Normalized DC Current Gain

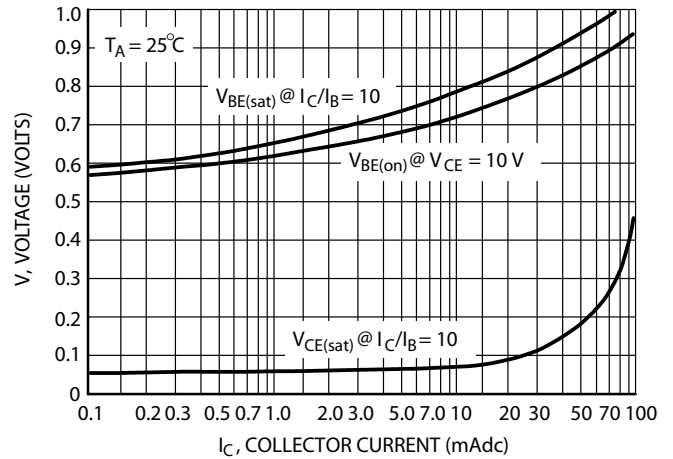


FIG.2 "Saturation" and "On" Voltages

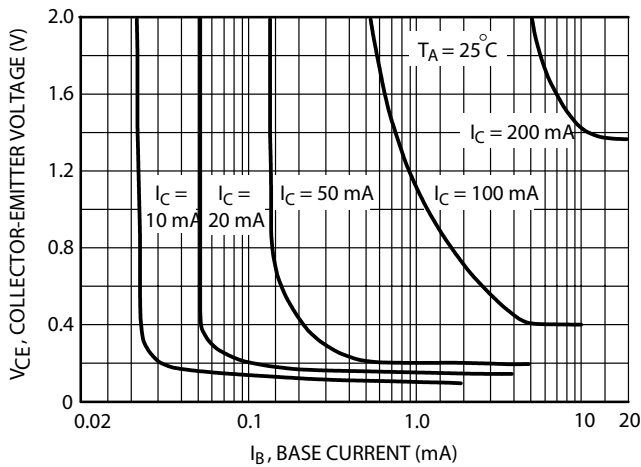


FIG.3 Collector Saturation Region

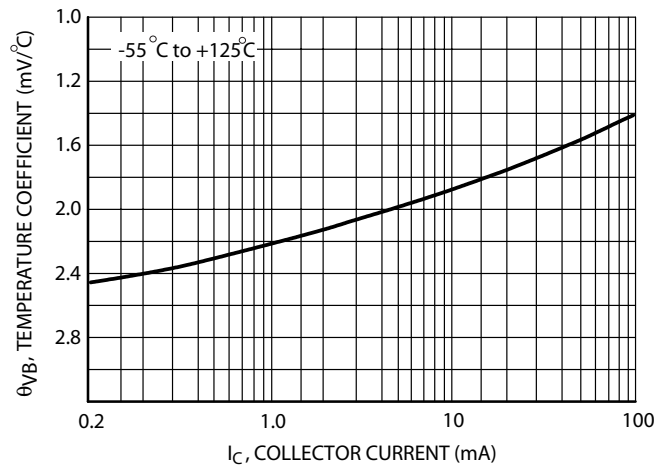


FIG.4 Base-Emitter Temperature Coefficient

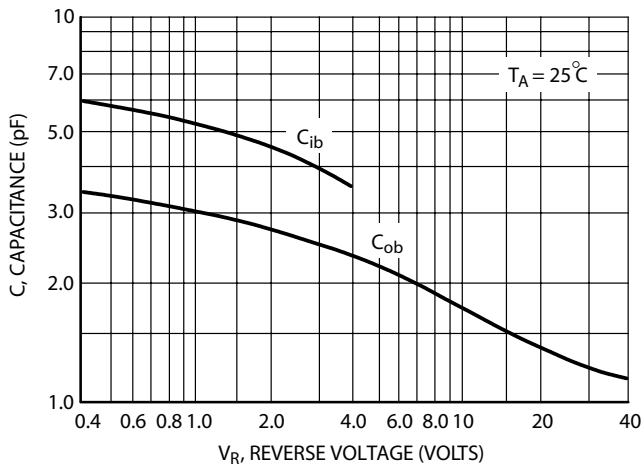


FIG.5 Capacitances

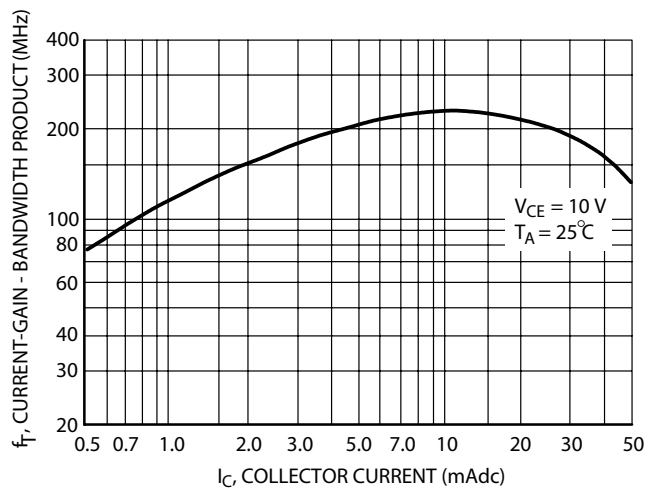


FIG.6 Current-Gain - Bandwidth Product

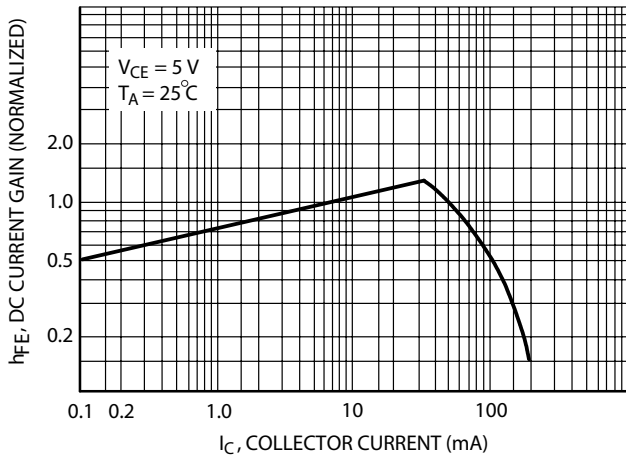


FIG.7 Normalized DC Current Gain

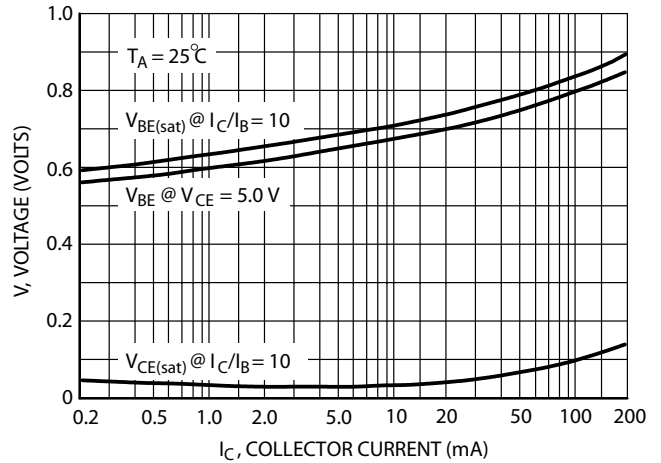


FIG.8 "On" Voltage

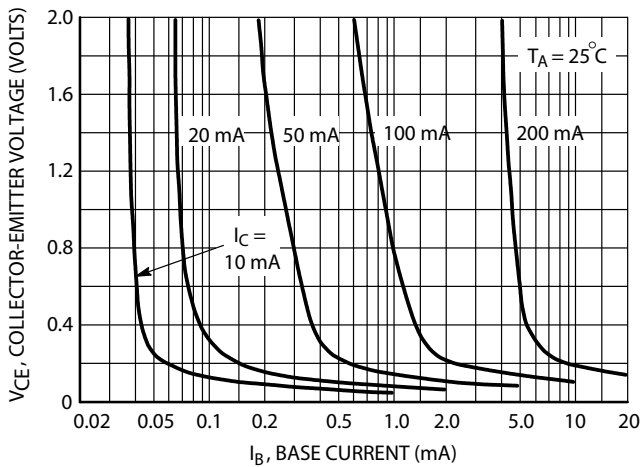


FIG.9 Collector Saturation Region

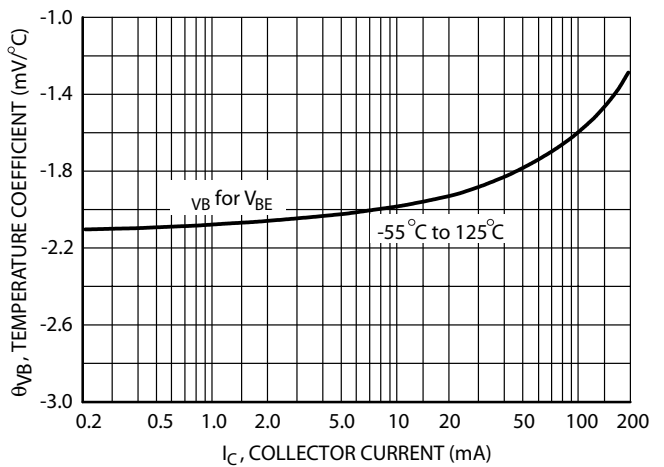


FIG.10 Base-Emitter Temperature Coefficient

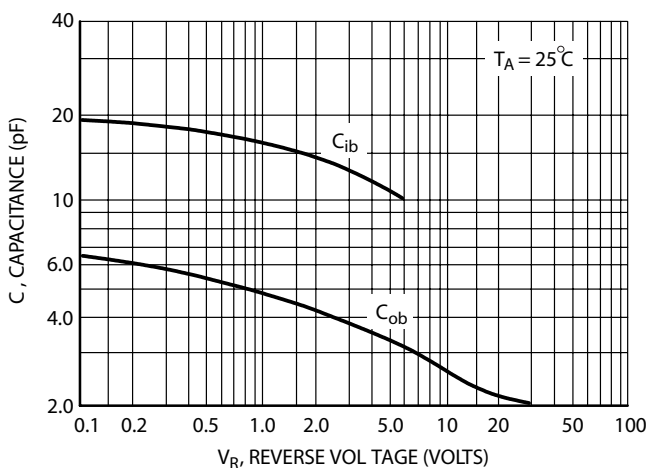


FIG.11 Capacitance

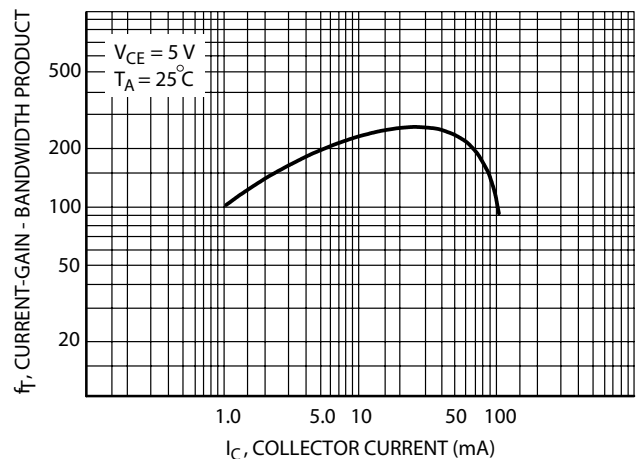


FIG.12 Current-Gain - Bandwidth Product

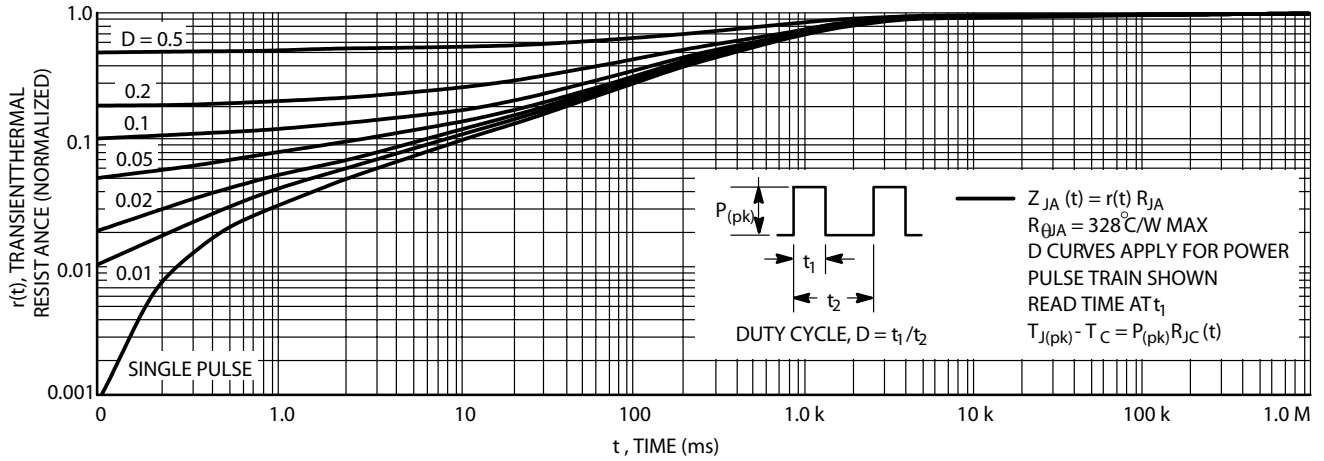


FIG.13 Thermal Response

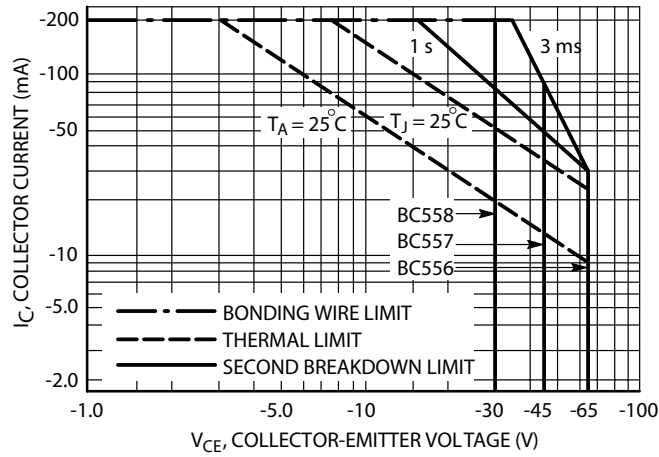
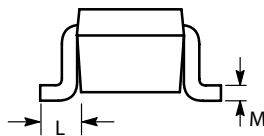
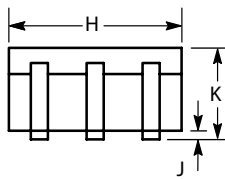
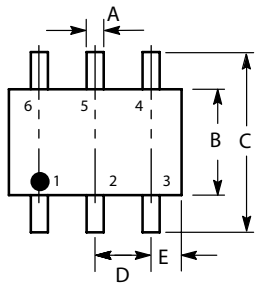


FIG.14 Active Region Safe Operating Area

SOT-363 Package Outline Dimensions

Unit:mm



SOT-363

Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 REF	
E	0.30	0.40
H	1.80	2.20
J	-	0.10
K	0.80	1.10
L	0.25	0.40
M	0.10	0.25