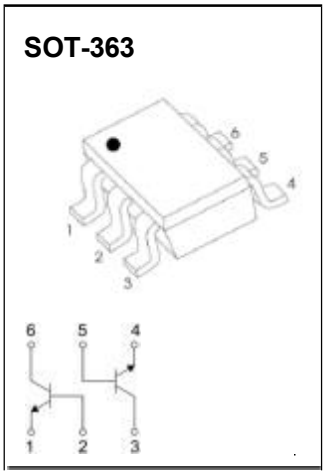
Plastic-Encapsulate Transistors

DUAL TRANSISTOR (NPN+NPN)

APPLICATION

This device is designed for general purpose amplifier applications



MARKING: BC847ADW 1Et
BC847BDW 1Ft
BC847CDW 1Gt

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	45	
V_{EBO}	Emitter-Base Voltage	6	
I_C	Collector Current-Continuous	100	mA
P_D	Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance. Junction to Ambient	625	℃/W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~+150	

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

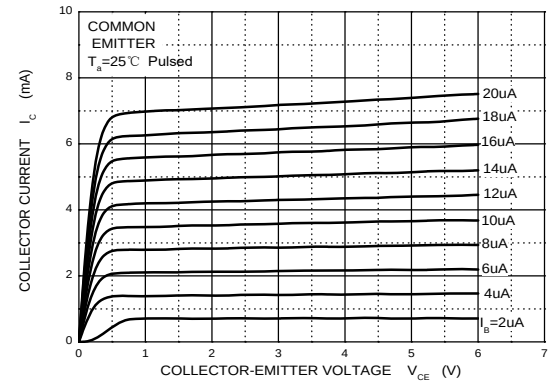
Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=10μA,I_E=0		50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0		45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA,I_C=0		6			V
Collector cut-off current	I_{CBO}	V_{CB}=30V,I_E=0				15	nA
Emitter cut-off current	I_{EBO}	V_{EB} =4V, I_C=0				15	
DC current gain*	h_{FE}	V_{CE}=5V,I_C=2mA	A	110		220	
			B	200		450	
			C	420		800	
Collector-emitter saturation voltage	$V_{CE(sat)(1)}$	I_C=10mA,I_B=0.5mA				0.25	V
	$V_{CE(sat)(2)}$	I_C=100mA,I_B=5mA				0.65	V
Base-emitter voltage	$V_{BE(1)}$	V_{CE}=5V,I_C=2mA				0.7	V
	$V_{BE(2)}$	V_{CE}=5V,I_C=10mA				0.77	V
Transition frequency	f_T	V_{CE}=5V,I_C=20mA ,f=100MHz			200		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=1MHz			2		pF

*pulse test: Pulse Width ≤300μs, Duty Cycle≤ 2.0%.

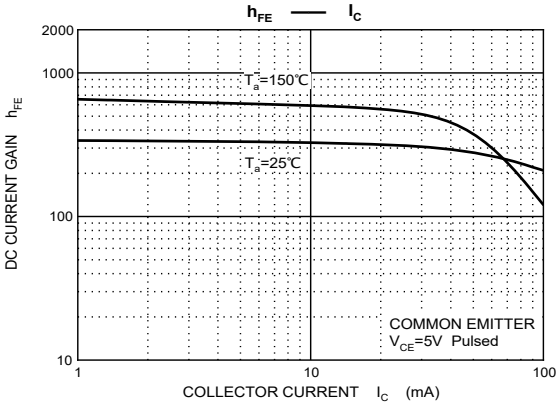
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Typical Characteristics

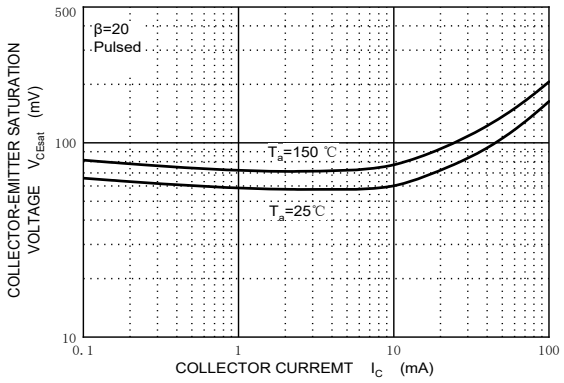
Static Characteristic



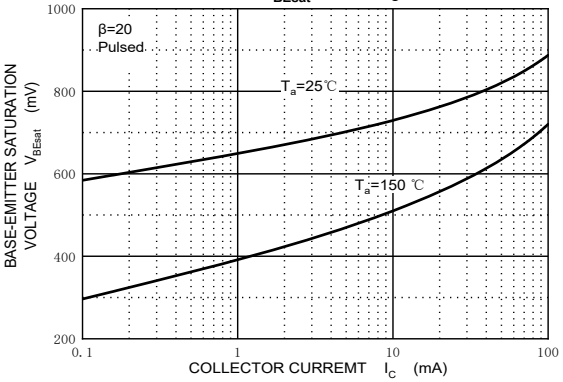
h_{FE} — I_C



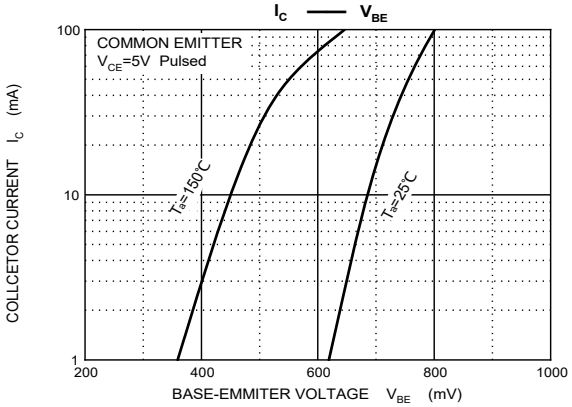
V_{CEsat} — I_C



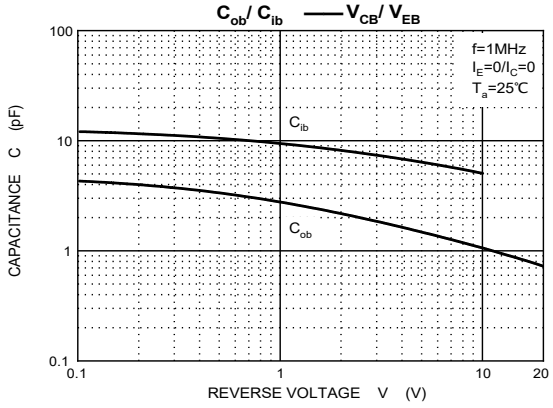
V_{BEsat} — I_C



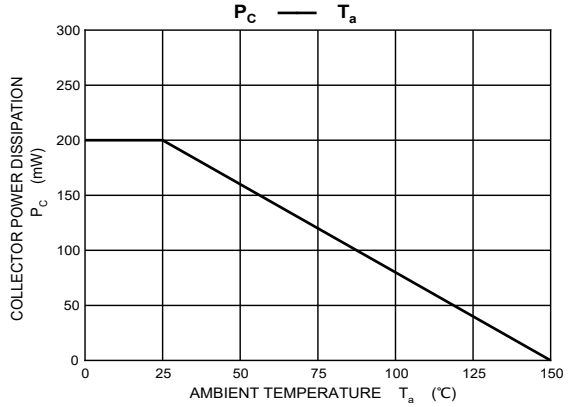
I_C — V_{BE}



C_{ob}/ C_{ib} —V_{CB}/ V_{EB}



P_C — T_a



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