Elektronische Bauelemente

BCV27

40 V, 500mA

NPN Darlington Plastic Encapsulated Transistor

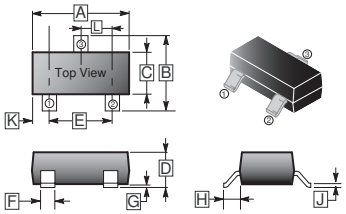
RoHS Compliant Product

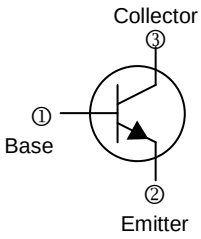
A suffix of "-C" specifies halogen & lead-free

SOT-23

FEATURES

- For general AF application high collector current
- High current gain





REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.04	G	-	0.18
B	2.10	2.80	H	0.40	0.60
C	1.20	1.60	J	0.08	0.20
D	0.89	1.40	K	0.6 REF.	
E	1.78	2.04	L	0.85	1.15
F	0.30	0.50			

ABSOLUTE MAXIMUM RATINGS (T_A = 25℃ unless otherwise specified)

PARAMETER	SYMBOL	RATING	UNIT
Collector to Base Voltage	V_{CBO}	40	V
Collector to Emitter Voltage	V_{CEO}	30	V
Emitter to Base Voltage	V_{EBO}	10	V
Collector Current - Continuous	I_C	500	mA
Collector Current - Peak	I_{CM}	800	mA
Collector Power Dissipation	P_C	350	mW
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	357	℃/W
Junction, Storage Temperature	T_J, T_{STG}	150, -65~150	℃

ELECTRICAL CHARACTERISTICS (T_A = 25℃ unless otherwise specified)

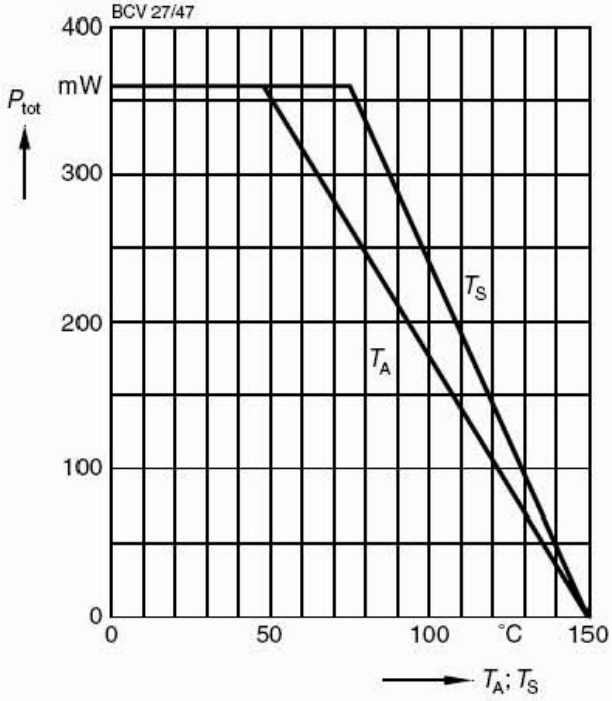
PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITION
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	40	-	-	V	I_C=100μA, I_E = 0A
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	30	-	-	V	I_C=10mA, I_B = 0A
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	10	-	-	V	I_E=10μA, I_C = 0A
Collector Cut-Off Current	I_{CBO}	-	-	0.1	μA	V_{CB}=30 V, I_E = 0 A
Emitter Cut-Off Current	I_{EBO}	-	-	0.1	μA	V_{EB}=4 V, I_C = 0 A
DC Current Gain	h_{FE1}*	4000	-	-		V_{CE}=1V, I_C=100μA
	h_{FE2}*	10000	-	-		V_{CE}=5V, I_C=10mA
	h_{FE3}*	20000	-	-		V_{CE}=5V, I_C=100mA
	h_{FE4}*	4000	-	-		V_{CE}=5V, I_C=500mA
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$ *	-	-	1	V	I_C=100mA, I_B=0.1mA
Base to Emitter Saturation Voltage	$V_{BE(sat)}$ *	-	-	1.5	V	I_C=100mA, I_B=0.1mA
Transition Frequency	f_T	-	170	-	MHz	V_{CE} = 5V, I_C =50mA, f=100MHz
Collector Output Capacitance	C_{ob}	-	3.5	-	pF	V_{CB} = 10V, f=1MHz

*Pulse test: Pulse width ≦300μS; Ducy Cycle ≦2.0%

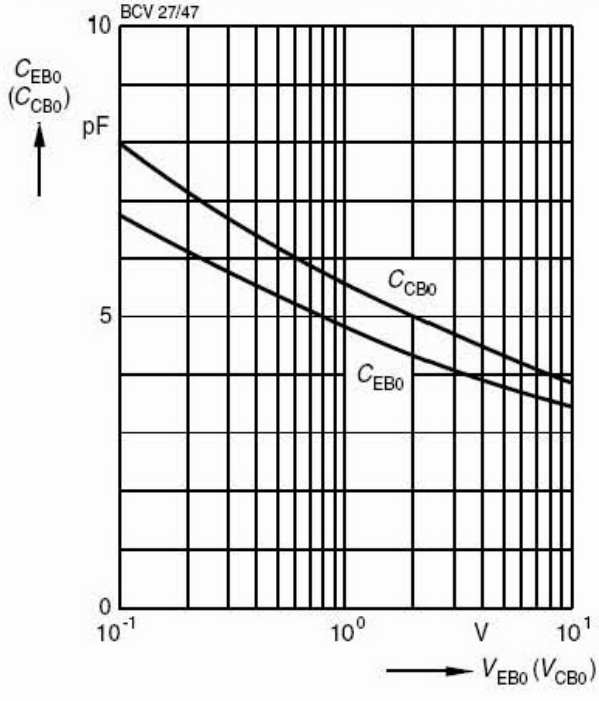
CHARACTERISTIC CURVES

Total power dissipation $P_{tot} = f(T_A^*; T_S)$

* Package mounted on epoxy

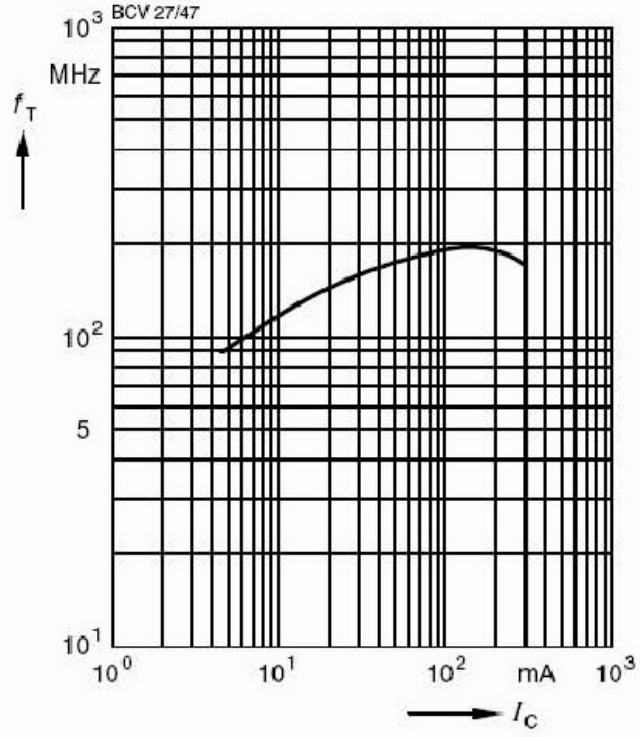


Collector-base capacitance $C_{CB} = f(V_{CBO})$
Emitter-base capacitance $C_{EB} = f(V_{EBO})$



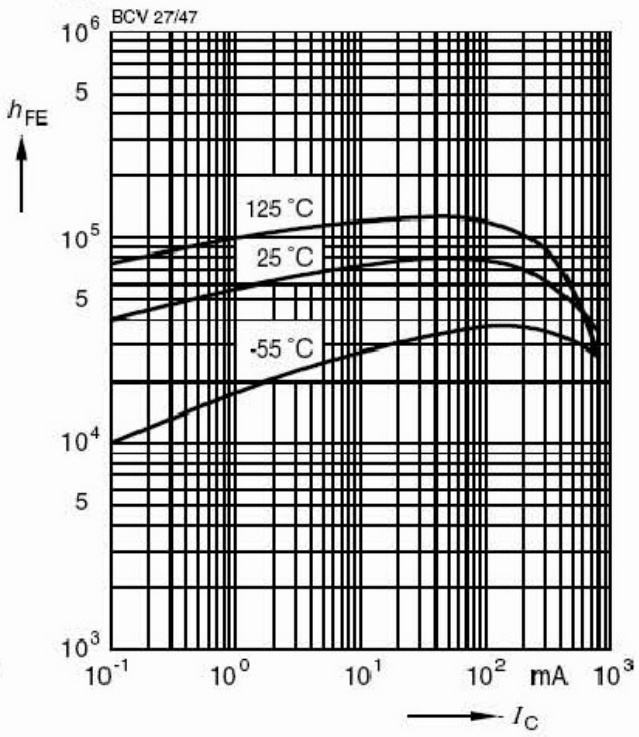
Transition frequency $f_T = f(I_C)$

V_{CE} = 5V



DC current gain $h_{FE} = f(I_C)$

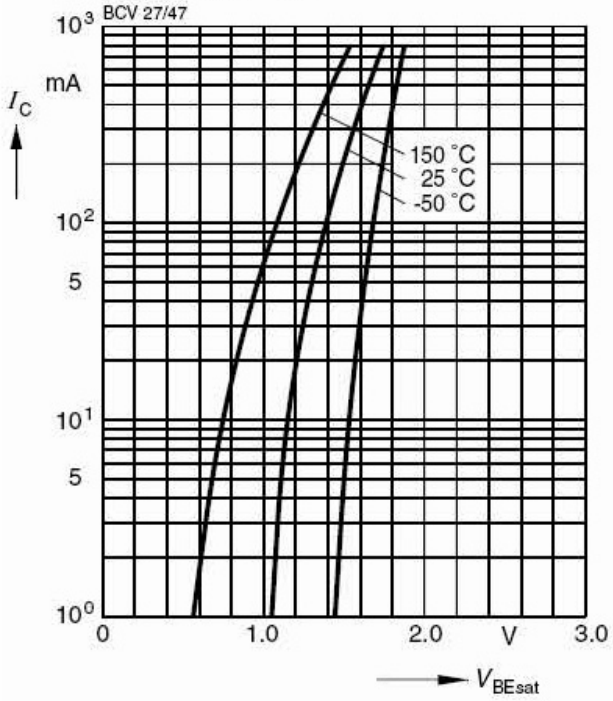
V_{CE} = 5V



CHARACTERISTIC CURVES

Base-emitter saturation voltage

$I_C = f(V_{BEsat})$, $h_{FE} = 1000$



Collector-emitter saturation voltage

$I_C = f(V_{CEsat})$, $h_{FE} = 1000$