CHINA BASE INTERNATIONAL

SOT-23

CBV27 - CBV47

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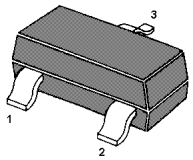
NPN Darlington Transistors

for preamplifier input applications



1.Base 2.Emitter 3.Collector
SOT-23 Plastic Package

MARKING : BCV27- FF
BCV47- FG

Absolute Maximum Ratings (T_a = 25℃)

Parameter		Symbol	Value	Unit
Collector Base Voltage	BCV27 BCV47	V_{CBO}	40 80	V
Collector Emitter Voltage	BCV27 BCV47	V_{CEO}	30 60	V
Emitter Base Voltage		V_{EBO}	10	V
Collector Current		I_C	500	mA
Peak Collector Current		I_{CM}	800	mA
Base Current		I_B	100	mA
Total Power Dissipation		P_{tot}	200	mW
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	- 65 to + 150	℃

Characteristics at T_a = 25 ℃

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at V_{CE} = 5 V, I_C = 1 mA	BCV27	h_{FE}	4000	-	-	-
	BCV47	h_{FE}	2000	-	-	-
at V_{CE} = 5 V, I_C = 10 mA	BCV27	h_{FE}	10000	-	-	-
	BCV47	h_{FE}	4000	-	-	-
at V_{CE} = 5 V, I_C = 100 mA	BCV27	h_{FE}	20000	-	-	-
	BCV47	h_{FE}	10000	-	-	-
Collector Cutoff Current						
at V_{CB} = 30 V	BCV27	I_{CBO}	-	-	100	nA
at V_{CB} = 60 V	BCV47		-	-	100	
Emitter Cutoff Current at V_{EB} = 10 V		I_{EBO}	-	-	100	nA
Collector Base Breakdown Voltage	BCV27	$V_{(BR)CBO}$	40	-	-	V
at I_C = 100 µA	BCV47		80	-	-	
Collector Emitter Breakdown Voltage	BCV27	$V_{(BR)CEO}$	30	-	-	V
at I_C = 10 mA	BCV47		60			
Emitter Base Breakdown Voltage at I_E = 10 µA		$V_{(BR)EBO}$	10	-	-	V
Collector Emitter Saturation Voltage at I_C = 100 mA, I_B = 0.1 mA		$V_{CE(sat)}$	-	-	1	V
Base Emitter Saturation Voltage at I_C = 100 mA, I_B = 0.1 mA		$V_{BE(sat)}$	-	-	1.5	V
Base Emitter On-state Voltage at I_C = 10 mA, V_{CE} = 5 V		$V_{BE(on)}$	-	-	1.4	V
Transition Frequency at V_{CE} = 5 V, I_C = 30 mA, f = 100 MHz		f_T	-	220	-	MHz

Electrical Characteristics Curves

Fig. 1 Collector Current vs. Base Emitter Voltage

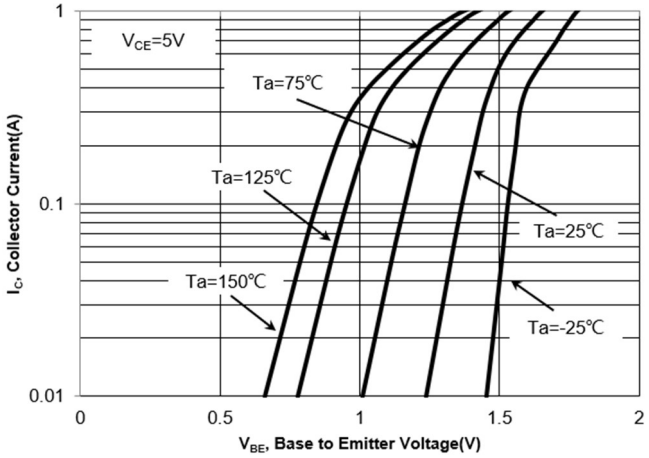


Fig. 2 DC Current Gain vs. Collector Current

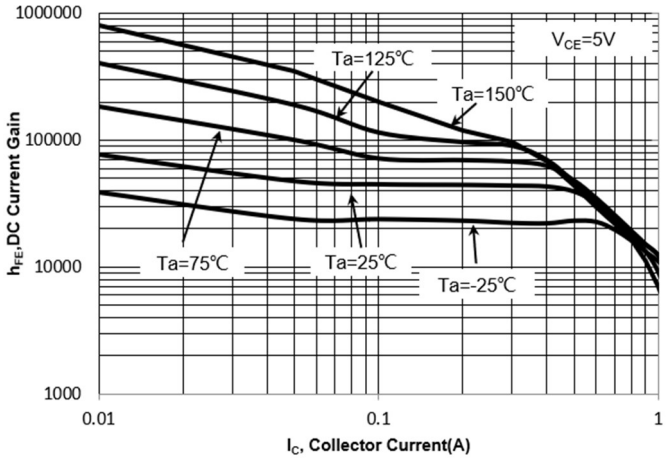


Fig. 3 V_{BESAT} vs. Collector Current

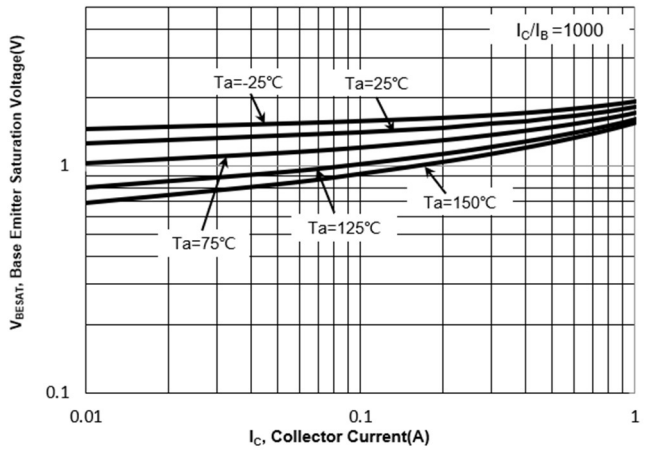


Fig. 4 V_{CESAT} vs. Collector Current

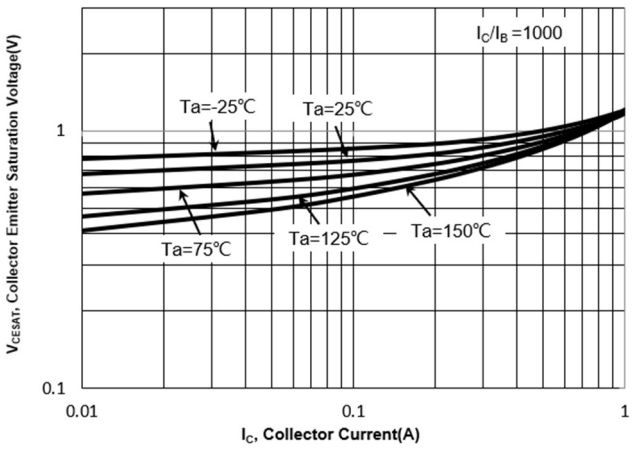


Fig. 5 Output Capacitance

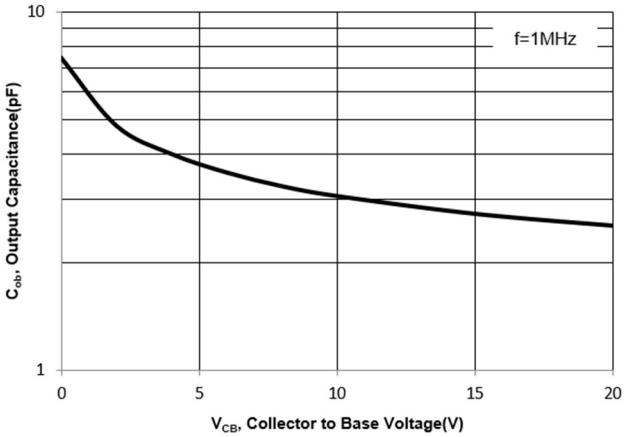


Fig. 6 Power Derating Curve