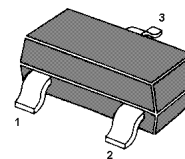


NPN Darlington Transistors

for preamplifier input applications



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

MARKING : BCV27- FF
BCV47- FG

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	BCV27 BCV47	40 80	V
Collector Emitter Voltage	BCV27 BCV47	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	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^\circ\text{C}$

Characteristics at $T_a = 25^\circ\text{C}$

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

Electrical Characteristics Curves

Fig. 1 Collector Current vs. Base Emitter Voltage

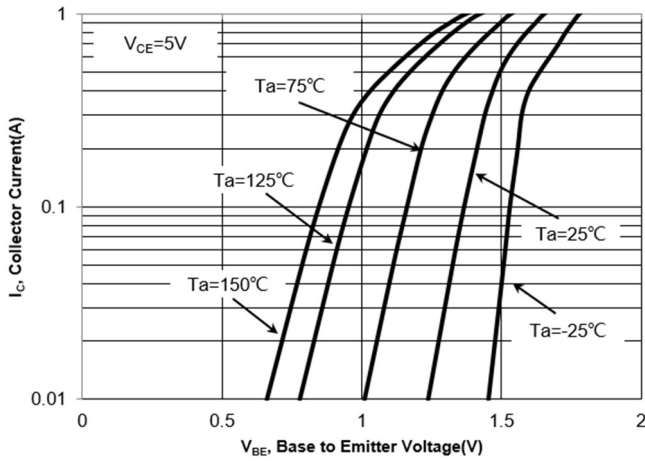


Fig. 2 DC Current Gain vs. Collector Current

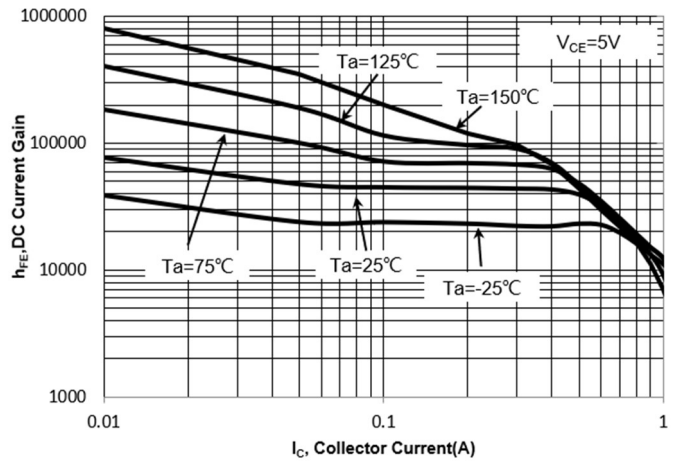


Fig. 3 V_{BESAT} vs. Collector Current

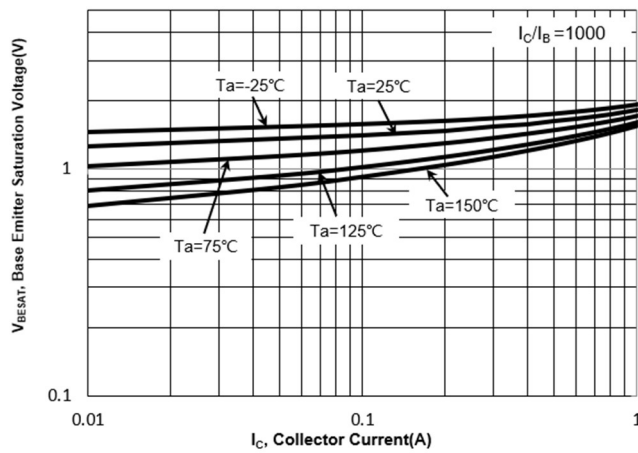


Fig. 4 V_{CESAT} vs. Collector Current

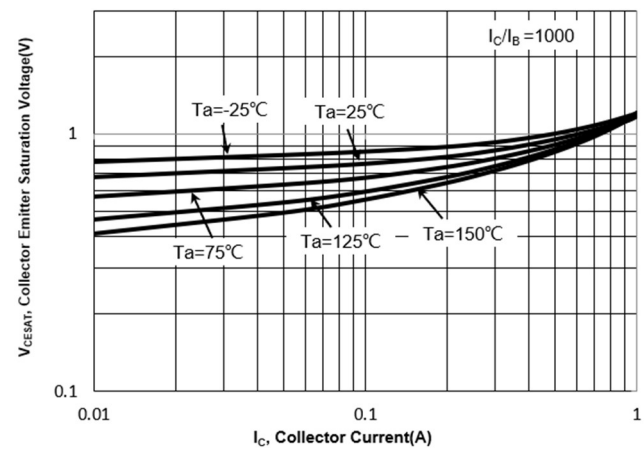


Fig. 5 Output Capacitance

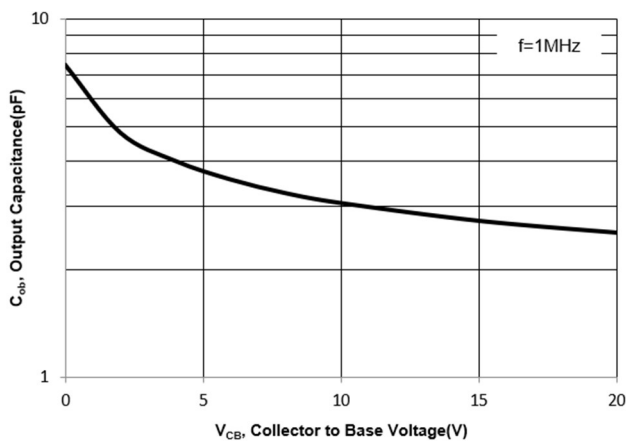


Fig. 6 Power Derating Curve

