

BCV47

NPN Surface Mount Darlington Transistor

Features

- High Collector Current
- High Current Gain
- Lead Free Finish/Rohs Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Halogen free available upon request by adding suffix "-HF"
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: FG

MAXIMUM RATINGS

Characteristic	Symbol	Max	Unit
Collector Power Dissipation	P_C	300	mW
Collector Current	I_C	500	mA
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	416	$^{\circ}\text{C/W}$
Junction and Storage Temperature	T_J, T_{stg}	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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OFF CHARACTERISTICS

$V_{(SUS)CEO}$	Collector-Emitter Sustain Voltage ($I_C=10\text{mA}$, $I_B=0$)	60.0		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=100\mu\text{A}$, $I_E=0$)	80.0		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=10\mu\text{A}$, $I_C=0$)	10.0		Vdc
I_{CBO}	Collector Cutoff Current ($V_{CB}=60\text{Vdc}$, $I_E=0$)		100	nA
I_{EBO}	Emitter Cutoff Current ($V_{EB}=4\text{Vdc}$, $I_C=0$)		100	nA

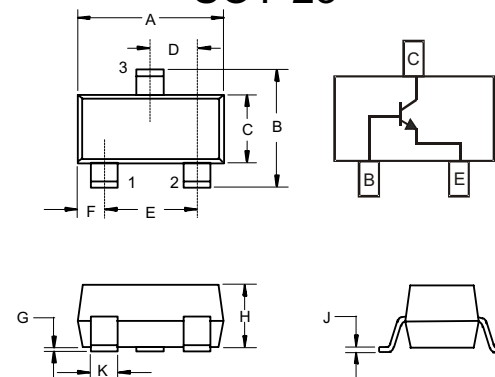
ON CHARACTERISTICS

h_{FE}	DC Current Gain* ($I_C=100\mu\text{A}$, $V_{CE}=1\text{Vdc}$) ($I_C=10\text{mA}$, $V_{CE}=5\text{Vdc}$) ($I_C=100\text{mA}$, $V_{CE}=5\text{Vdc}$) ($I_C=500\text{mA}$, $V_{CE}=5\text{Vdc}$)	2,000 4,000 10,000 2,000		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=100\text{mA}$, $I_B=100\mu\text{A}$)		1.0	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=100\text{mA}$, $I_B=100\mu\text{A}$)		1.5	Vdc

SMALL-SIGNAL CHARACTERISTICS

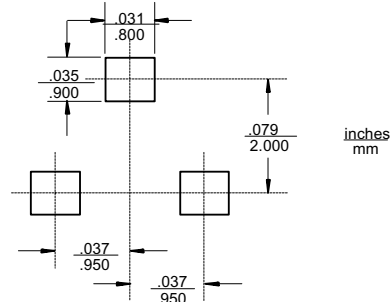
f_T	Current Gain-Bandwidth Product ($I_C=50\text{mA}$, $V_{CE}=5.0\text{Vdc}$, $f=100\text{MHz}$)	170(typ)	MHz
C_{cb}	Collector output Capacitance ($V_{CB}=10\text{Vdc}$, $I_E=0$, $f=1.0\text{MHz}$)	3.5(typ)	pF

SOT-23



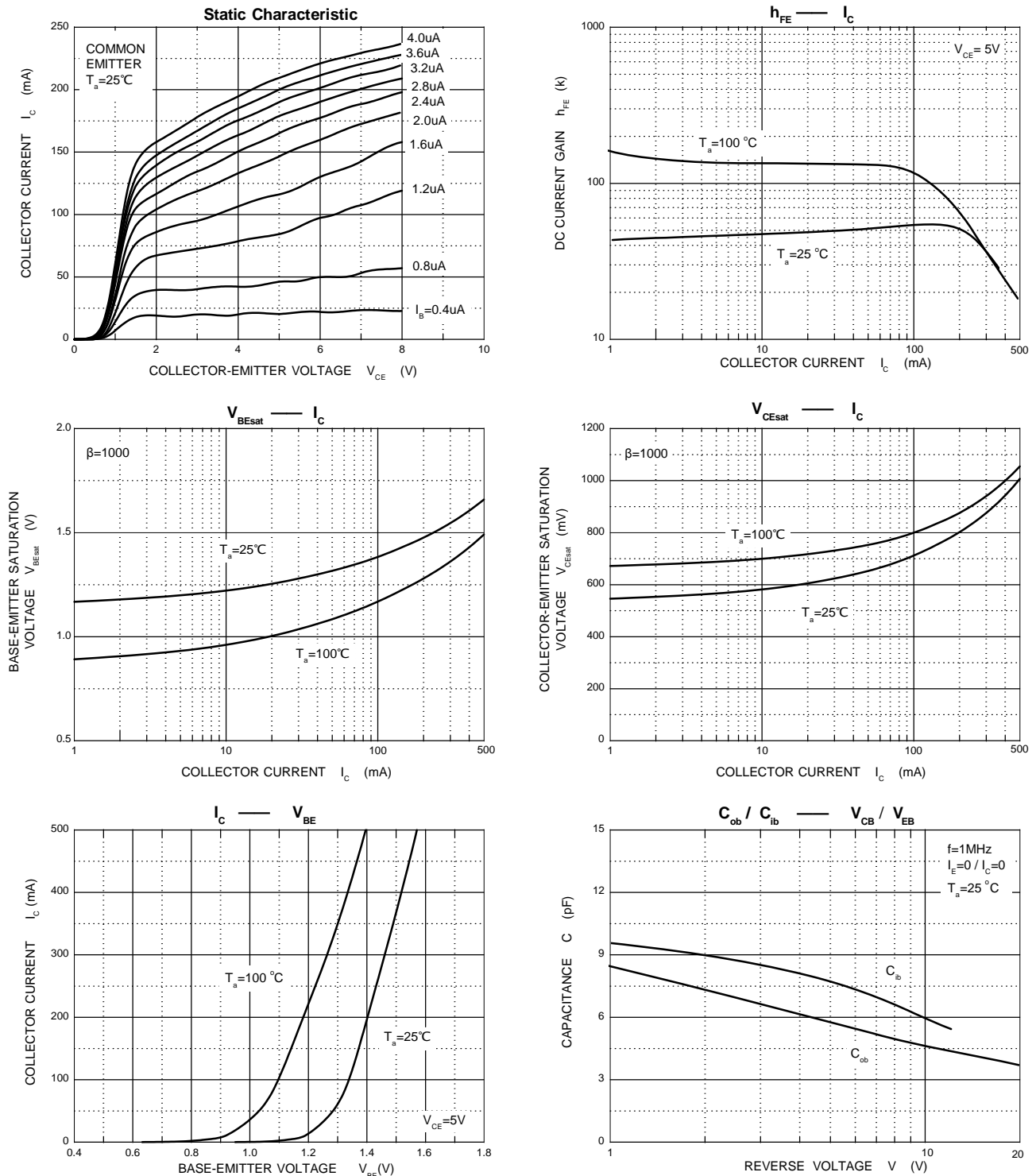
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.098	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Suggested Solder Pad Layout

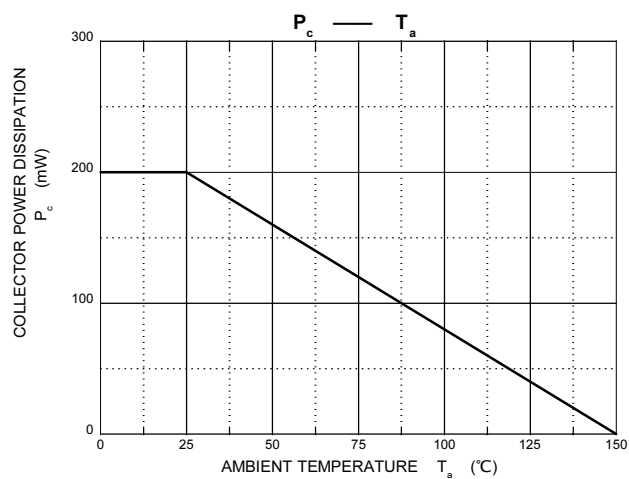


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Typical Characterist



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Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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