



Micro Commercial Components



Micro Commercial Components  
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**2SB1184-P**

**2SB1184-Q**

**2SB1184-R**

## Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Low Collector Saturation Voltage
- Excellent current-to-gain characteristics
- Maximum Thermal Resistance: 125°C/W Junction to Ambient

## Maximum Ratings

Symbol	Rating	Rating	Unit
V <sub>CEO</sub>	Collector-Emitter Voltage	-50	V
V <sub>CBO</sub>	Collector-Base Voltage	-60	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5.0	V
I <sub>C</sub>	Collector Current	-3.0	A
P <sub>C</sub>	Collector power dissipation	1.0	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	-55 to +150	°C

## Electrical Characteristics @ 25°C Unless Otherwise Specified

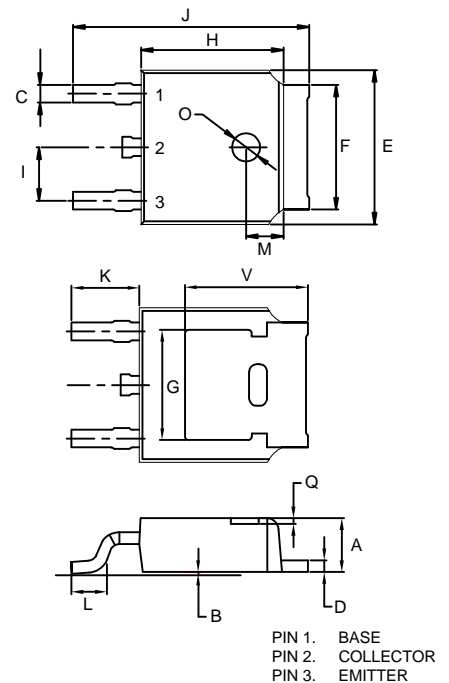
Symbol	Parameter	Min	Typ	Max	Units
V <sub>(BR)CBO</sub>	Collector-base Breakdown Voltage (I <sub>C</sub> =-50μAdc, I <sub>E</sub> =0)	-60	---	---	Vdc
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage (I <sub>C</sub> =-1mAdc, I <sub>B</sub> =0)	-50	---	---	Vdc
V <sub>(BR)EBO</sub>	Emitter-base Breakdown Voltage (I <sub>E</sub> =-50μAdc, I <sub>C</sub> =0)	-5	---	---	Vdc
I <sub>CBO</sub>	Collector-Base Cutoff Current (V <sub>CB</sub> =-40Vdc, I <sub>E</sub> =0)	---	---	-1.0	μAdc
I <sub>EBO</sub>	Emitter-Base Cutoff Current (V <sub>EB</sub> =-4Vdc, I <sub>C</sub> =0)	---	---	-1.0	μAdc
h <sub>FE(1)</sub>	DC Current Gain (I <sub>C</sub> =-0.5Adc, V <sub>CE</sub> =-3.0Vdc)	82	---	390	---
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage (I <sub>C</sub> =-2Adc, I <sub>B</sub> =-200mAdc)	---	---	-1.0	Vdc
f <sub>T</sub>	Transition Frequency (V <sub>CE</sub> =-5Vdc, I <sub>C</sub> =-500mAdc, f=30MHz)	---	70	---	MHz
C <sub>ob</sub>	Collector output capacitance (V <sub>CB</sub> =-10Vdc, I <sub>E</sub> =0, f=1.0MHz)	---	50	---	pF

## CLASSIFICATION OF H<sub>FE</sub> (1)

Rank	P	Q	R
Range	82-180	120-270	180-390

## PNP Silicon Epitaxial Transistors

## DPAK



## DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.087	0.094	2.20	2.40	
B	0.000	0.005	0.00	0.13	
C	0.026	0.034	0.66	0.86	
D	0.018	0.023	0.46	0.58	
E	0.256	0.264	6.50	6.70	
F	0.201	0.215	5.10	5.46	
G	0.190		4.83		
H	0.236	0.244	6.00	6.20	
I	0.086	0.094	2.18	2.39	
J	0.386	0.409	9.80	10.40	
K	0.114		2.90		
L	0.055	0.067	1.40	1.70	
M	0.063		1.60		
O	0.043	0.051	1.10	1.30	
Q	0.000	0.012	0.00	0.30	
V	0.211		5.35		

# 2SB1184



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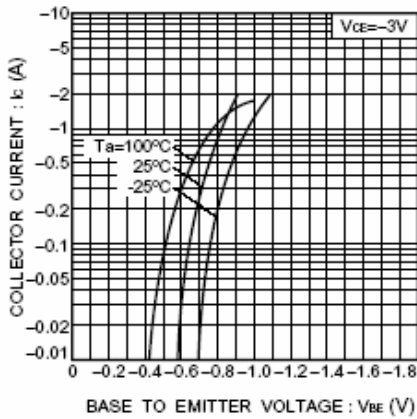


Fig.1 Grounded emitter propagation characteristics

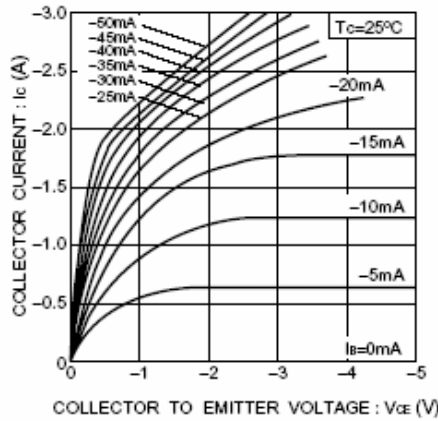


Fig.2 Grounded emitter output characteristics ( I )

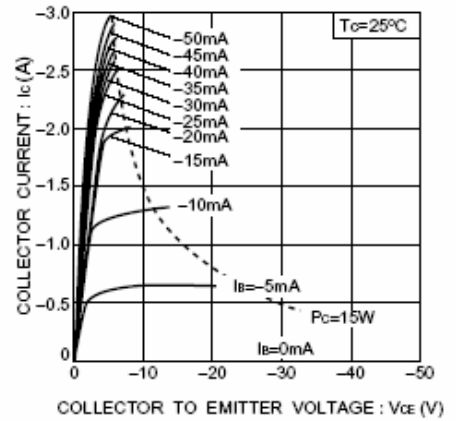


Fig.3 Grounded emitter output characteristics ( II )

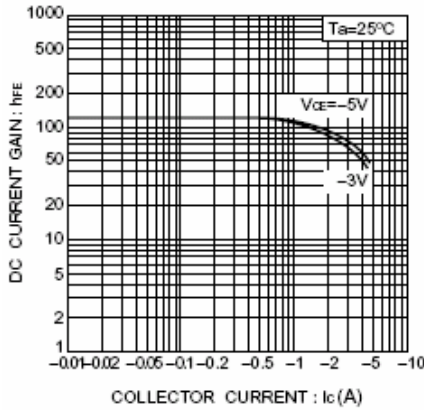


Fig.4 DC current gain vs. collector current ( I )

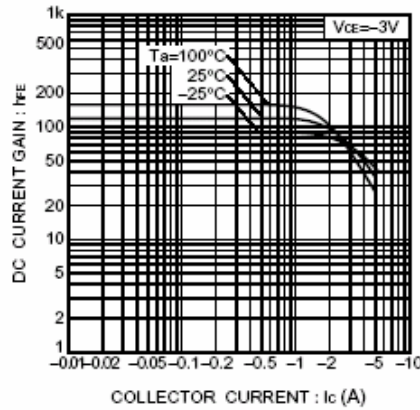


Fig.5 DC current gain vs. collector current ( II )

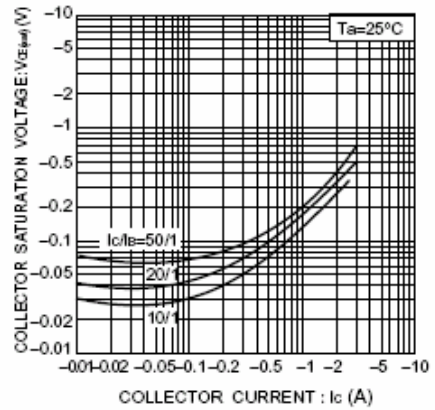


Fig.6 Collector-emitter saturation voltage vs. collector current

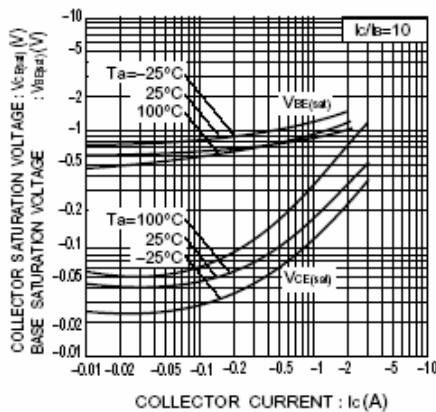


Fig.7 Collector-emitter saturation voltage vs. collector current  
Base-emitter saturation voltage vs. collector current

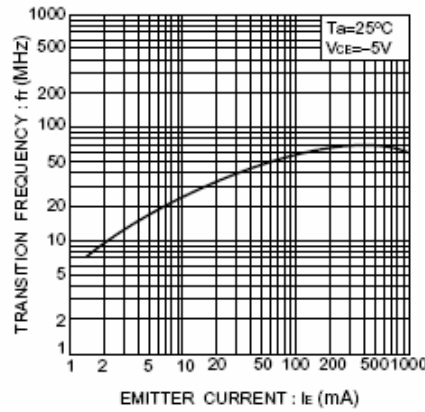


Fig.8 Gain bandwidth product vs. emitter current

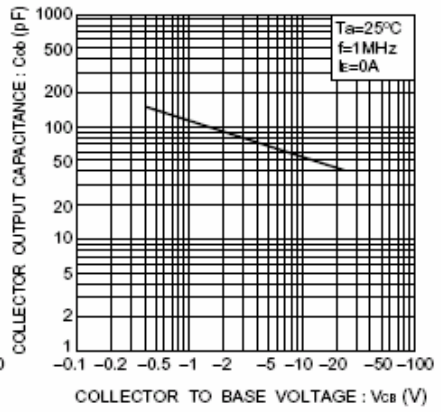


Fig.9 Collector output capacitance vs. collector base voltage

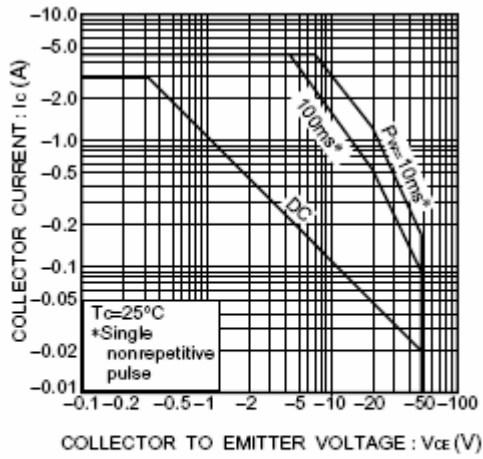


Fig.10 Safe operation area (2SB1184)



TM

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### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel

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

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