



Micro Commercial Components



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**2SB1412-P**  
**2SB1412-Q**  
**2SB1412-R**

## Features

- Low Collector Saturation Voltage
- Excellent current-to-gain characteristics
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: B1412
- Halogen free available upon request by adding suffix "-HF"

## Maximum Ratings

Symbol	Rating	Rating	Unit
$V_{CEO}$	Collector-Emitter Voltage	-30	V
$V_{CBO}$	Collector-Base Voltage	-20	V
$V_{EBO}$	Emitter-Base Voltage	-6.0	V
$I_C$	Collector Current	-5.0	A
$P_C$	Collector power dissipation	1.0	W
$T_J$	Junction Temperature	150	°C
$T_{STG}$	Storage Temperature	-55 to +150	°C

## Electrical Characteristics @ 25°C Unless Otherwise Specified

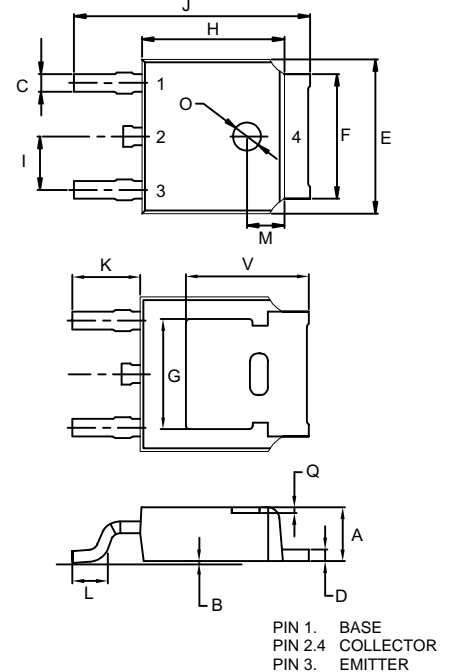
Symbol	Parameter	Min	Typ	Max	Units
$V_{(BR)CBO}$	Collector-base Breakdown Voltage ( $I_C=-50\mu A$ , $I_E=0$ )	-30	---	---	Vdc
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ( $I_C=-1mA$ , $I_B=0$ )	-20	---	---	Vdc
$V_{(BR)EBO}$	Emitter-base Breakdown Voltage ( $I_E=-50\mu A$ , $I_C=0$ )	-6	---	---	Vdc
$I_{CBO}$	Collector-Base Cutoff Current ( $V_{CB}=-20V$ , $I_E=0$ )	---	---	-0.5	$\mu A$
$I_{EBO}$	Emitter-Base Cutoff Current ( $V_{EB}=-5V$ , $I_C=0$ )	---	---	-0.5	$\mu A$
$h_{FE(1)}$	DC Current Gain ( $I_C=-0.5A$ , $V_{CE}=-2.0V$ )	82	---	390	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=-4A$ , $I_B=-100mA$ )	---	---	-1.0	Vdc
$f_T$	Transition Frequency ( $V_{CE}=-6V$ , $I_C=-500mA$ , $f=30MHz$ )	---	120	---	MHz
$C_{ob}$	Collector output capacitance ( $V_{CB}=-20V$ , $I_E=0$ , $f=1.0MHz$ )	---	60	---	pF

## CLASSIFICATION OF $h_{FE(1)}$

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

## PNP Silicon Epitaxial Transistors

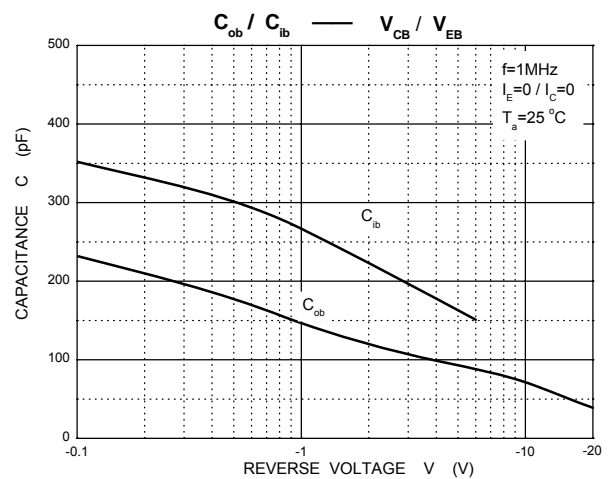
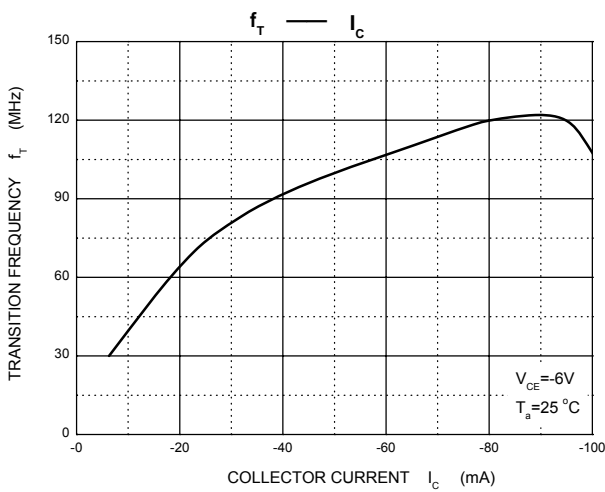
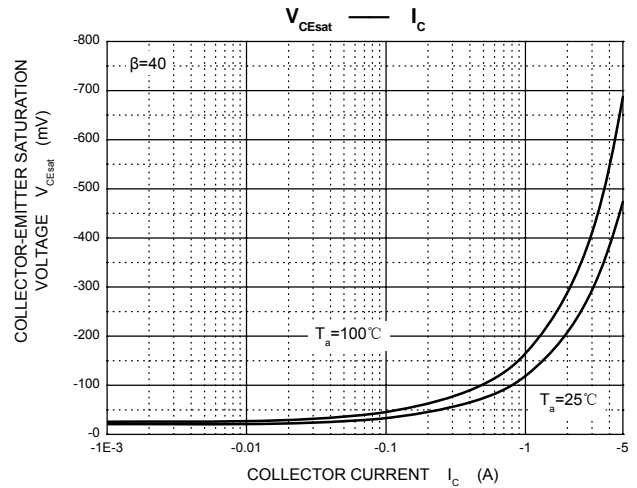
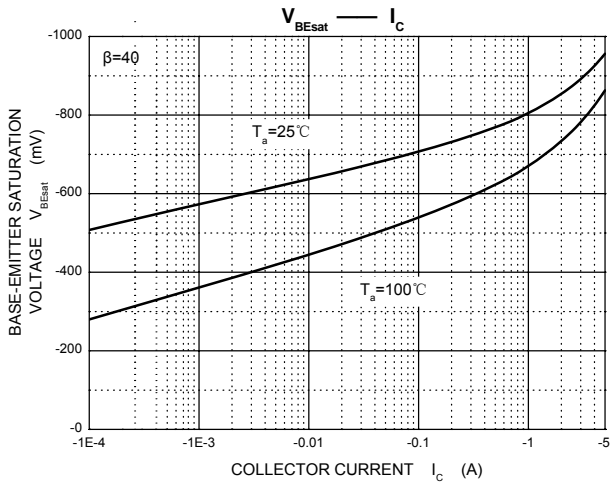
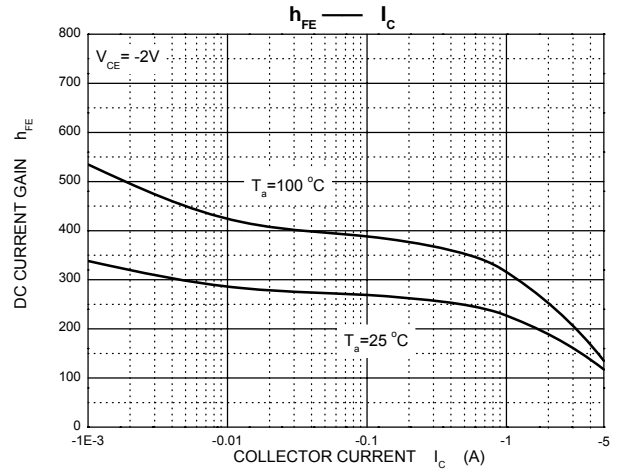
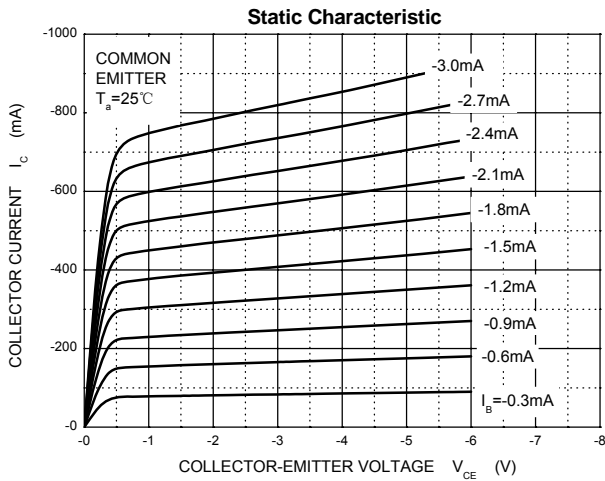
### DPAK



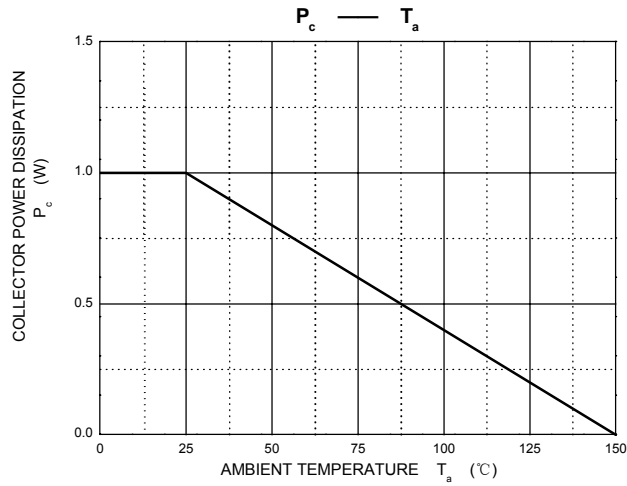
#### DIMENSIONS

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		

# Typical Characteristics



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### Ordering Information :

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

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

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