



Micro Commercial Components

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2N6036

**PNP Darlington
Power Transistor**

Features

- Halogen free available upon request by adding suffix "-HF"
- This device is designed for general purpose amplifier and low-speed switching applications.
- Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: 2N6036

Maximum Ratings*

Symbol	Rating	Rating	Unit
V_{CE0}	Collector-Emitter Voltage	80	V
V_{CB0}	Collector-Base Voltage	80	V
V_{EB0}	Emitter-Base Voltage	5.0	V
I_C	Collector Current, Continuous	4.0	A
	Peak	8.0	A
I_B	Base Current	100	mA
T_J	Operating Junction Temperature	-55 to +150	°C
T_{STG}	Storage Temperature	-55 to +150	°C

Thermal Characteristics

Symbol	Rating	Max	Unit
P_D	Total Device Dissipation	40	W
	Derate above 25°C	0.32	W/°C
P_D	Total Device Dissipation	1.5	W
	Derate above 25°C	0.012	W/°C
R_{JC}	Thermal Resistance, Junction to Case	3.12	°C/W
R_{JA}	Thermal Resistance, Junction to Ambient	83.3	°C/W

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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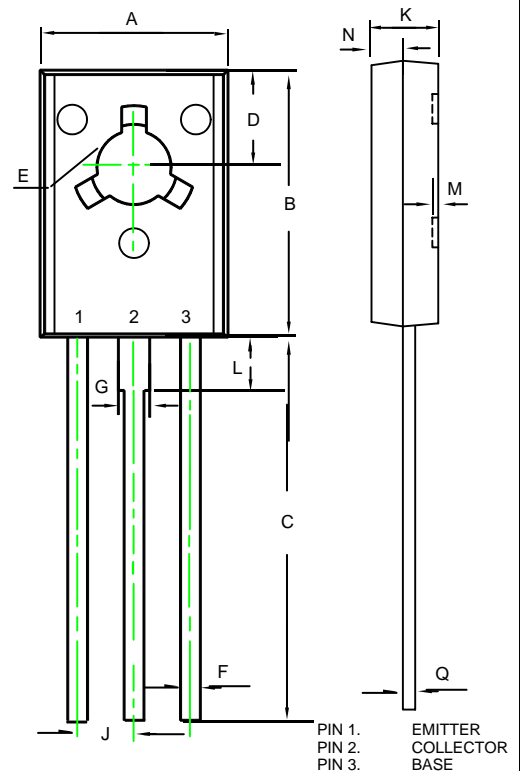
OFF CHARACTERISTICS

$V_{CE0(sus)}$	Collector-Emitter Breakdown Voltage ⁽¹⁾ ($I_C=100mA$, $I_E=0$)	80	---	Vdc
I_{C0}	Collector Cutoff Current ($V_{CB}=60Vdc$, $I_E=0$)	---	100	μAdc
I_{CEX}	Collector Cutoff Current ($V_{CE}=80Vdc$, $V_{EB(off)}=1.5Vdc$) ($V_{CE}=80Vdc$, $V_{EB(off)}=1.5Vdc$, $T_C=125°C$)	---	100 500	μA mA
I_{C0}	Collector-Cutoff Current ($V_{CB}=80Vdc$, $I_E=0$)	---	0.5	mAdc
I_{E0}	Emitter Cutoff Current ($V_{EB}=5.0Vdc$, $I_C=0$)	---	2.0	mAdc

*Indicates JEDEC Registered Data

Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7.

TO-126



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.291	0.307	7.40	7.80	
B	0.417	0.433	10.60	11.00	
C	0.602	0.618	15.30	15.70	
D	0.154	0.161	3.90	4.10	
E	0.118	0.126	3.00	3.20	
F	0.026	0.034	0.66	0.86	
G	0.046	0.054	1.17	1.37	
J	0.090TYP		2.290TYP		
K	0.098	0.114	2.50	2.90	
L	0.083	0.091	2.10	2.30	
M	0.000	0.012	0.00	0.30	
N	0.043	0.059	1.10	1.50	
Q	0.018	0.024	0.45	0.60	

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Symbol	Parameter	Min	Max	Units
DYNAMIC CHARACTERISTICS				
h_{FE}	DC Current Gain			
	($V_{CE}=3.0Vdc, I_C=0.5Adc$)	500	---	---
	($V_{CE}=3.0Vdc, I_C=2.0Adc$)	750	15000	
	($V_{CE}=3.0Vdc, I_C=4.0Adc$)	100	---	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=2.0Adc, I_B=8.0mAdc$) ($I_C=4.0Adc, I_B=40mAdc$)	---	2.0 3.0	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=4.0Adc, I_B=40mAdc$)	---	4.0	Vdc
$V_{BE(on)}$	Base-Emitter On Voltage ($I_C=2.0Adc, V_{CE}=3.0Vdc$)	---	2.8	Vdc
DYNAMIC CHARACTERISTICS				
$ h_{fe} $	Small-Signal Current-Gain ($I_C=0.75Adc, V_{CE}=10Vdc, f=1.0MHz$)	25	---	---
C_{ob}	Output Capacitance ($V_{CB}=10Vdc, I_E=0, f=0.1MHz$)	---	200	pF

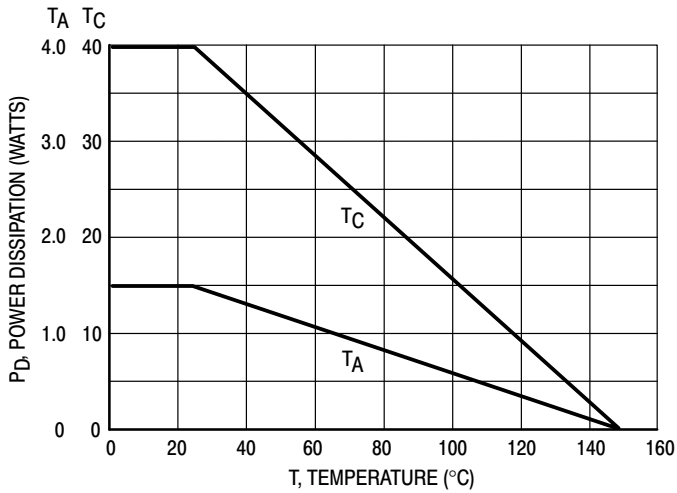


Figure 1. Power Derating

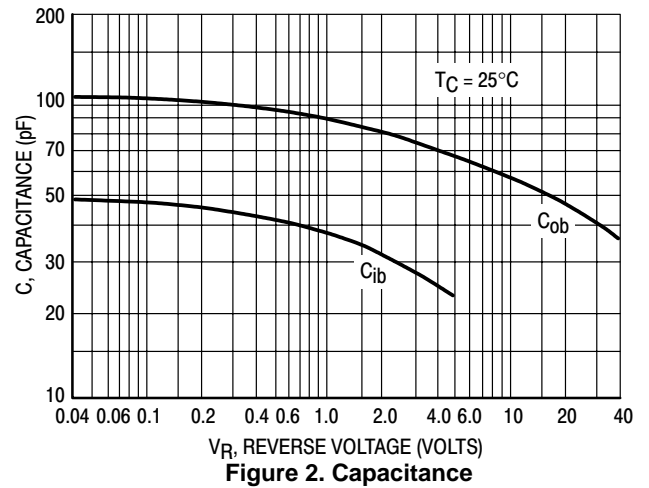


Figure 2. Capacitance

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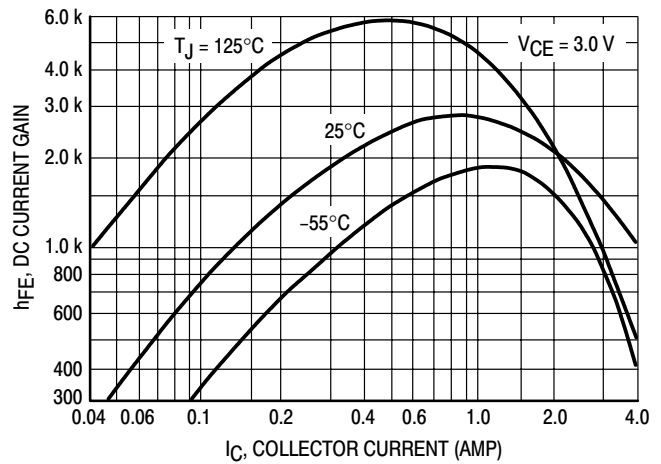
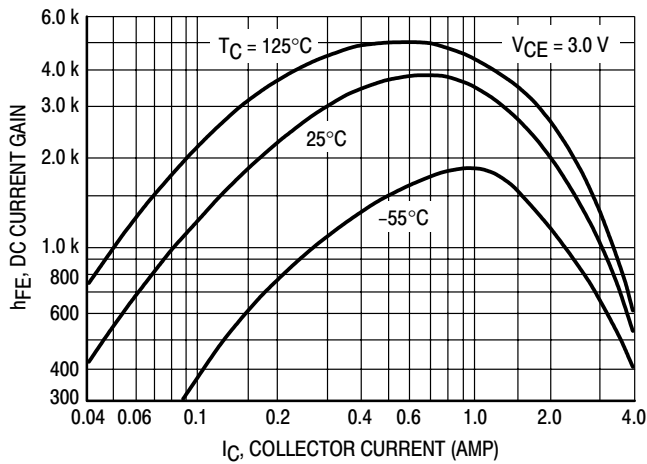


Figure 3. DC Current Gain

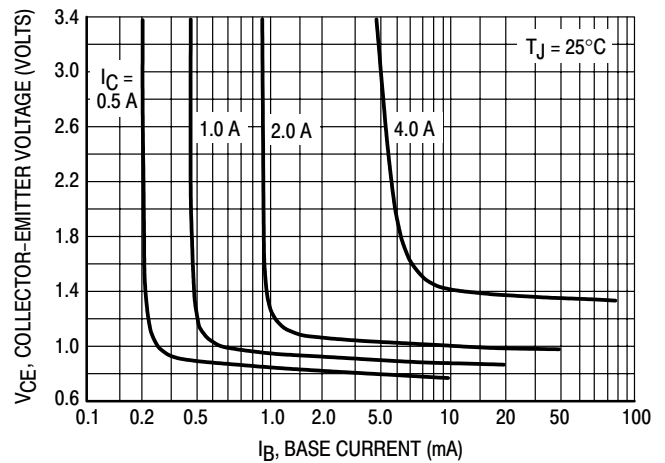
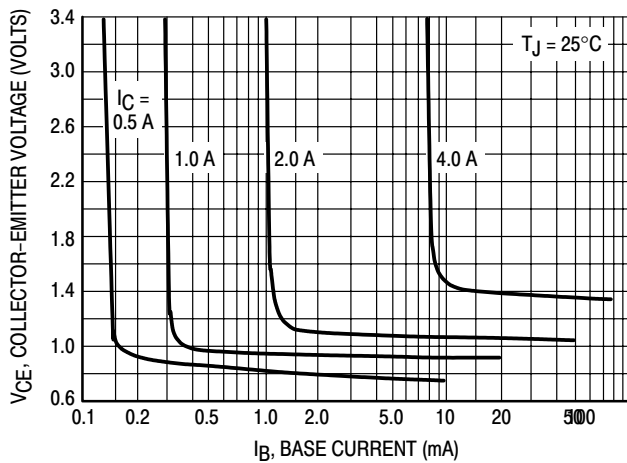


Figure 4. Collector Saturation Region

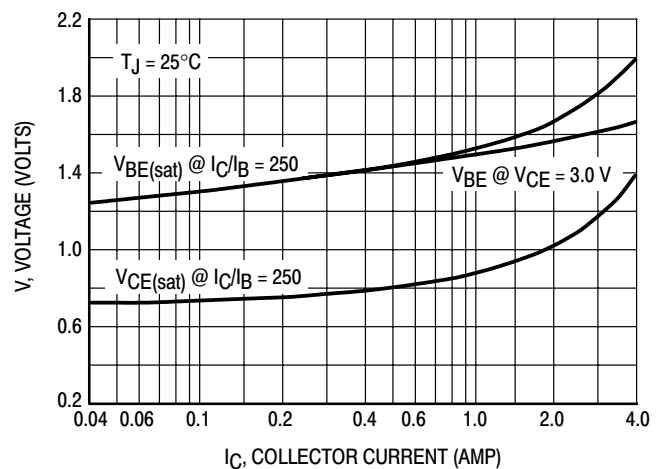
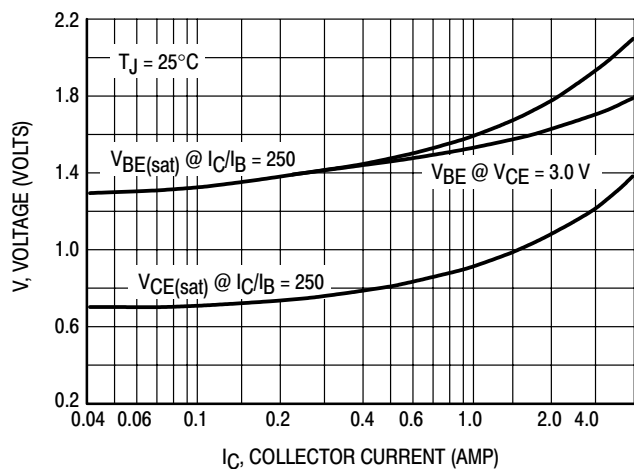


Figure 5. "On" Voltages



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Ordering Information :

Device	Packing
Part Number-BP	Bulk; 1Kpcs/Box

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

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