



# THE DATASHEET OF 2N4403-AP





Micro Commercial Components



Micro Commercial Components  
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2N4403

PNP General Purpose Amplifier

Features

- Halogen free available upon request by adding suffix "-HF"
- Capable of 625mWatts of Power Dissipation
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: Type number
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
<b>OFF CHARACTERISTICS</b>				
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage* ( $I_C=-1.0mA$ , $I_B=0$ )	-40		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=-100\mu A$ , $I_E=0$ )	-40		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_E=-100\mu A$ , $I_C=0$ )	-5.0		Vdc
$I_{CBO}$	Collector Cut-off Current ( $V_{CE}=-35V$ , $I_E=0$ )		-0.1	$\mu A$
$I_{EBO}$	Emitter Cut-off Current ( $V_{EB}=-5V$ , $I_C=0$ )		-0.1	$\mu A$

ON CHARACTERISTICS

$h_{FE}$	DC Current Gain* ( $I_C=-0.1mA$ , $V_{CE}=-1.0V$ ) ( $I_C=-1.0mA$ , $V_{CE}=-1.0V$ ) ( $I_C=-10mA$ , $V_{CE}=-1.0V$ ) ( $I_C=-150mA$ , $V_{CE}=-1.0V$ ) ( $I_C=-500mA$ , $V_{CE}=-2.0V$ )	30		
		60		
		100		
		100	300	
		20		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=-150mA$ , $I_B=-15mA$ ) ( $I_C=-500mA$ , $I_B=-50mA$ )		-0.4 -0.75	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ( $I_C=-150mA$ , $I_B=-15mA$ ) ( $I_C=-500mA$ , $I_B=-50mA$ )	-0.75	-0.95 -1.30	Vdc

SMALL-SIGNAL CHARACTERISTICS

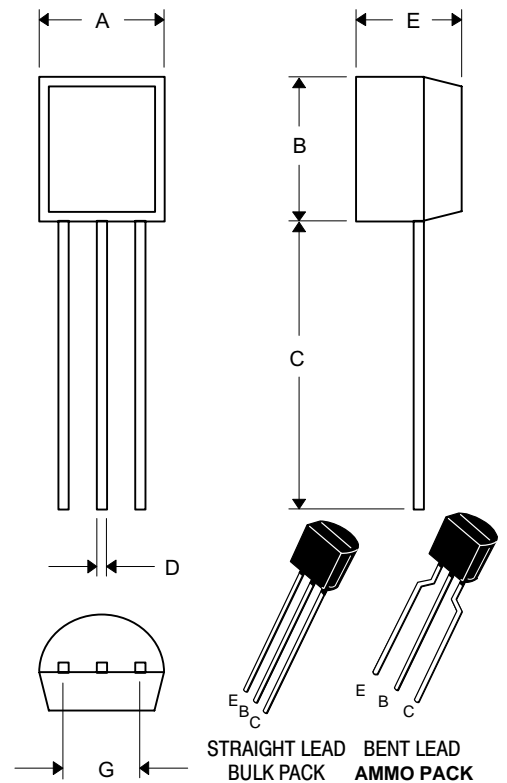
$f_T$	Current Gain-Bandwidth Product ( $I_C=-20mA$ , $V_{CE}=-10V$ , $f=100MHz$ )	200		MHz
$C_{cb}$	Output Capacitance ( $V_{CB}=-10V$ , $I_E=0$ , $f=140kHz$ )		8.5	pF
$C_{eb}$	Input Capacitance ( $V_{EB}=-0.5V$ , $I_C=0$ , $f=140kHz$ )		30.0	pF

SWITCHING CHARACTERISTICS

$t_d$	Delay Time	( $V_{CC}=-3.0V$ , $V_{BE}=-2.0V$ )	15	ns
$t_r$	Rise Time	$I_C=-150mA$ , $I_{B1}=-15mA$	20	ns
$t_s$	Storage Time	( $V_{CC}=-3.0V$ , $I_C=-150mA$ )	225	ns
$t_f$	Fall Time	$I_{B1}=I_{B2}=-15mA$	30	ns

\*Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2.0\%$

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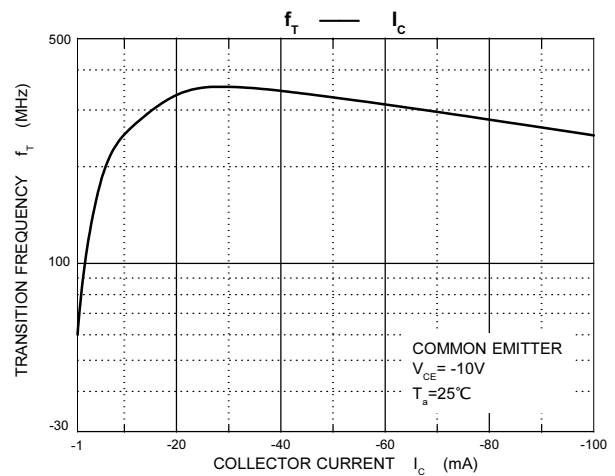
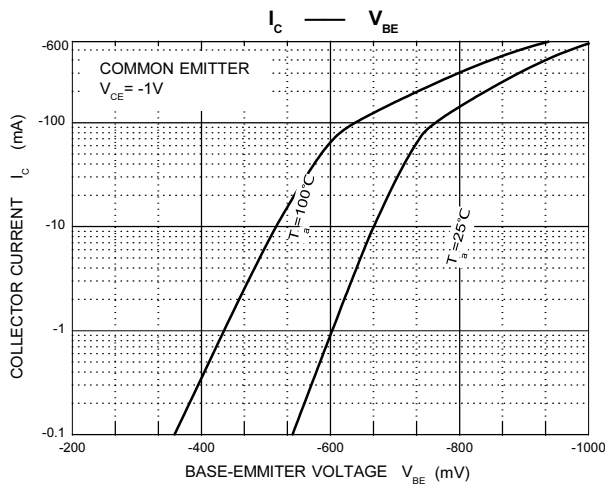
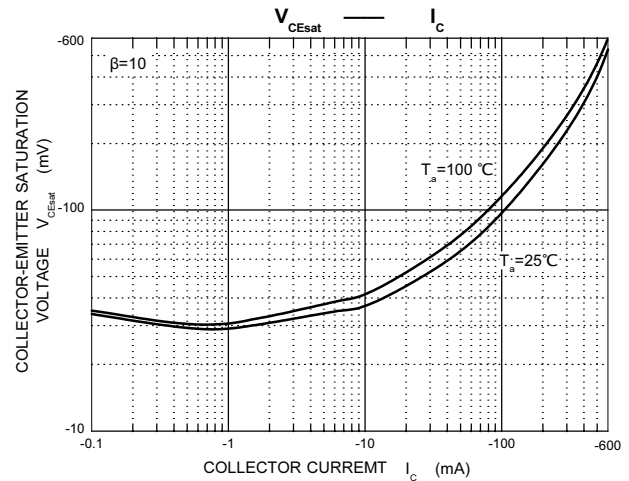
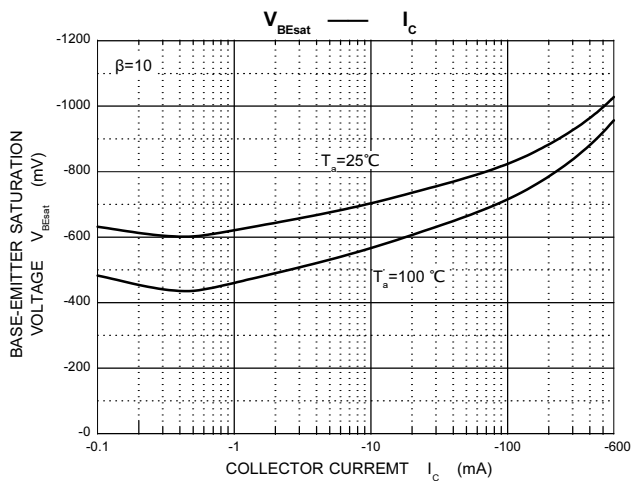
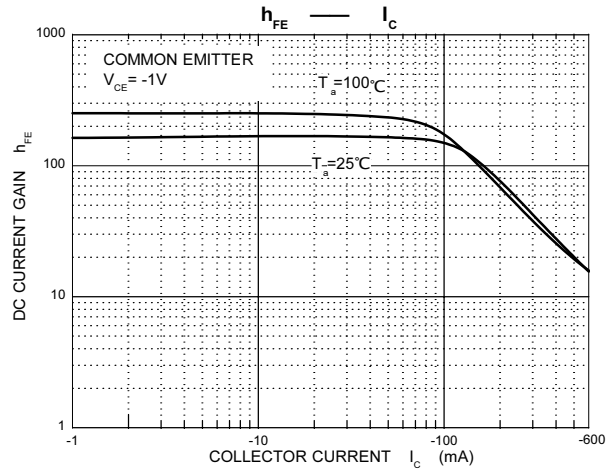
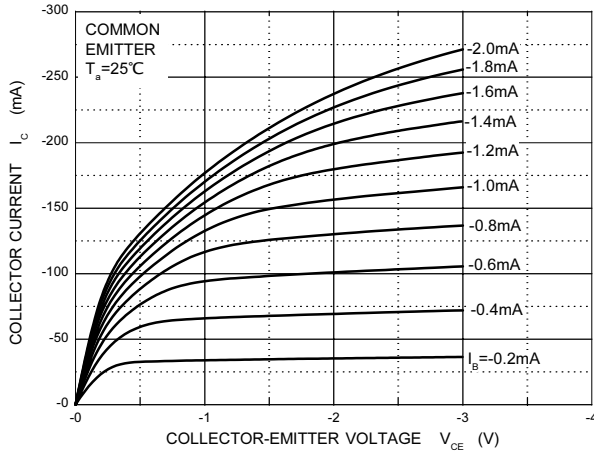
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.175	.185	4.45	4.70	
B	.175	.185	4.45	4.70	
C	.500	---	12.70	---	
D	.016	.020	0.41	0.63	
E	.135	.145	3.43	3.68	
G	.095	.105	2.42	2.67	Straight Lead
	.173	.220	4.40	5.60	Bent Lead

\* For ammo packing detailed specification, click here to visit our website of product packaging for details.

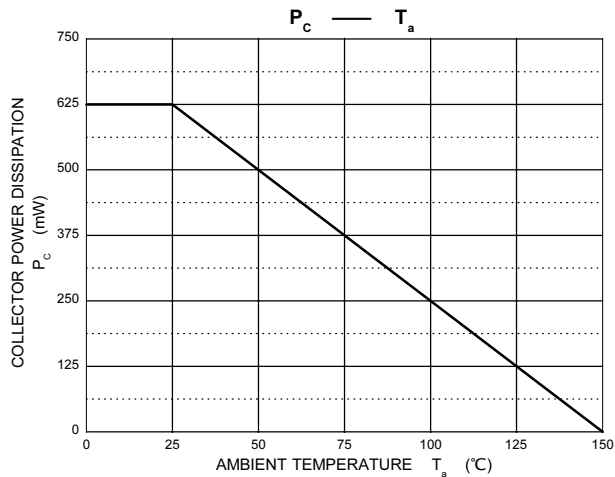
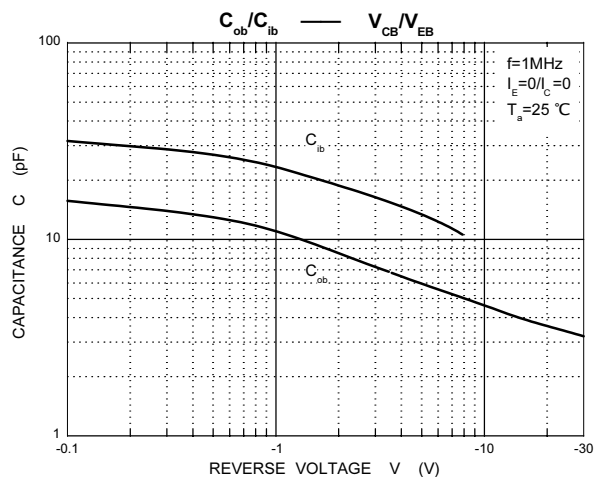
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# Typical Characteristics

Static Characteristic



# Typical Characteristics





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## Ordering Information :

Device	Packing
Part Number-AP	Ammo Packing: 20Kpcs/Carton
Part Number-BP	Bulk: 100Kpcs/Carton

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

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