



Micro Commercial Components

Micro Commercial Components  
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# PN2222A

## 600mW NPN General Purpose Amplifier

### Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- ≠ Marking: Type number
- Continuous Collector Current (Ic) =600mA.
- Operating and storage temperature range(Tj&Tstg) from -55°C ~+150 °C
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1

### Electrical Characteristics @ 25°C Unless Otherwise Specified

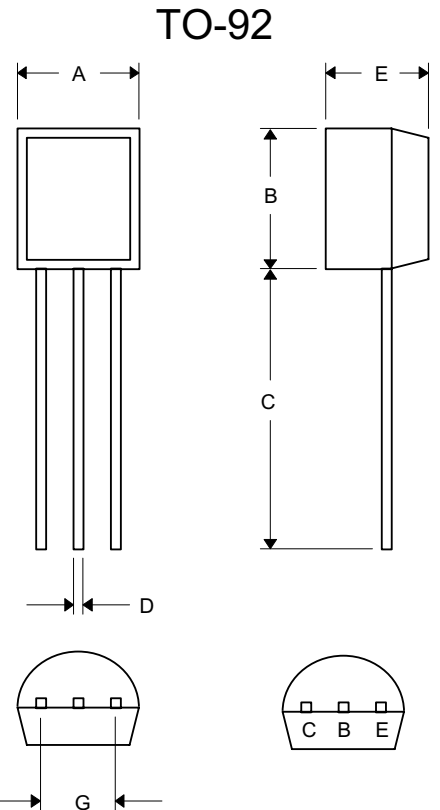
Symbol	Parameter	Min	Max	Units
<b>OFF CHARACTERISTICS</b>				
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage* (I <sub>C</sub> =10mAdc, I <sub>B</sub> =0)	40		Vdc
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage (I <sub>C</sub> =10μAdc, I <sub>E</sub> =0)	75		Vdc
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage (I <sub>E</sub> =10μAdc, I <sub>C</sub> =0)	6.0		Vdc
I <sub>BL</sub>	Base Cutoff Current (V <sub>CE</sub> =60Vdc, V <sub>BE</sub> =3.0Vdc)		20	nAdc
I <sub>CEX</sub>	Collector Cutoff Current (V <sub>CE</sub> =60Vdc, V <sub>BE</sub> =3.0Vdc)		10	nAdc

<b>ON CHARACTERISTICS</b>				
h <sub>FE</sub>	DC Current Gain* (I <sub>C</sub> =0.1mAdc, V <sub>CE</sub> =10Vdc) (I <sub>C</sub> =1.0mAdc, V <sub>CE</sub> =10Vdc) (I <sub>C</sub> =10mAdc, V <sub>CE</sub> =10Vdc) (I <sub>C</sub> =150mAdc, V <sub>CE</sub> =10Vdc) (I <sub>C</sub> =150mAdc, V <sub>CE</sub> =1.0Vdc) (I <sub>C</sub> =500mAdc, V <sub>CE</sub> =10Vdc)	35 50 75 100 50 40	300	
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage (I <sub>C</sub> =150mAdc, I <sub>B</sub> =15mAdc) (I <sub>C</sub> =500mAdc, I <sub>B</sub> =50mAdc)		0.3 1.0	Vdc
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage (I <sub>C</sub> =150mAdc, I <sub>B</sub> =15mAdc) (I <sub>C</sub> =500mAdc, I <sub>B</sub> =50mAdc)	0.6	1.2 2.0	Vdc

<b>SMALL-SIGNAL CHARACTERISTICS</b>				
f <sub>T</sub>	Current Gain-Bandwidth Product (I <sub>C</sub> =20mAdc, V <sub>CE</sub> =20Vdc, f=100MHz)	300		MHz
C <sub>obo</sub>	Output Capacitance (V <sub>CB</sub> =10Vdc, I <sub>E</sub> =0, f=100kHz)		8.0	pF
C <sub>ibo</sub>	Input Capacitance (V <sub>BE</sub> =0.5Vdc, I <sub>C</sub> =0, f=100kHz)		25	pF
NF	Noise Figure (I <sub>C</sub> =100μAdc, V <sub>CE</sub> =10Vdc, R <sub>S</sub> =1.0kΩ f=1.0kHz)		4.0	dB

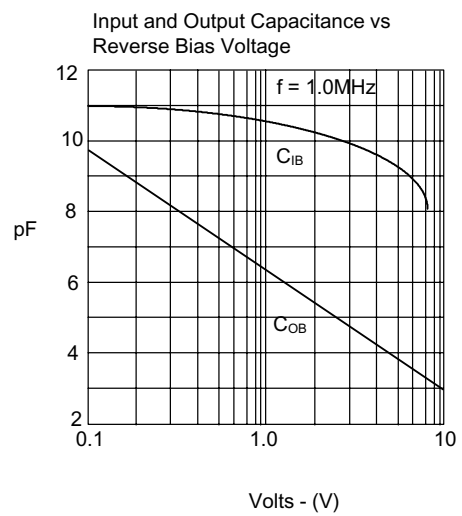
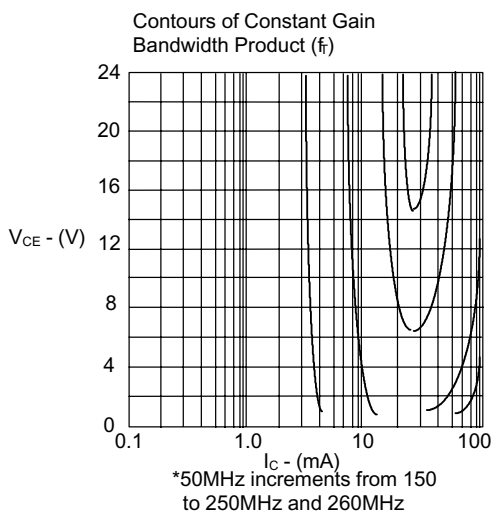
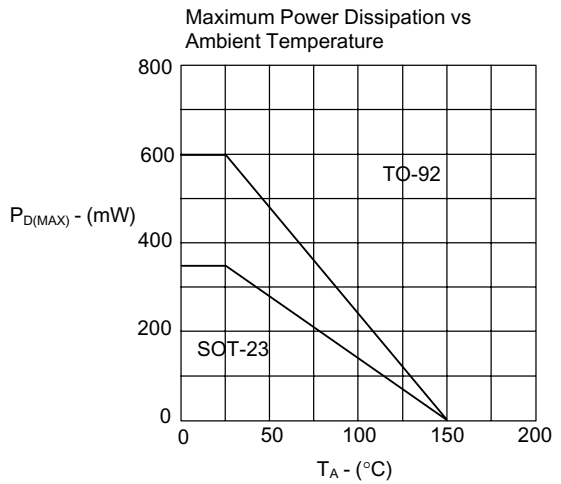
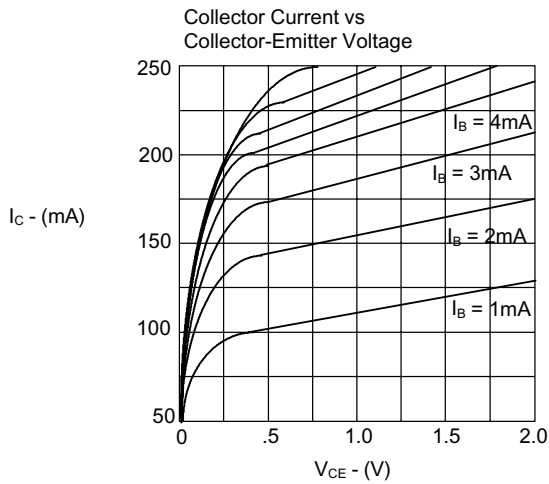
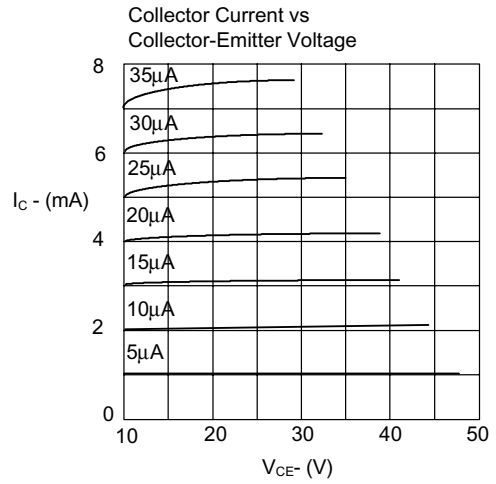
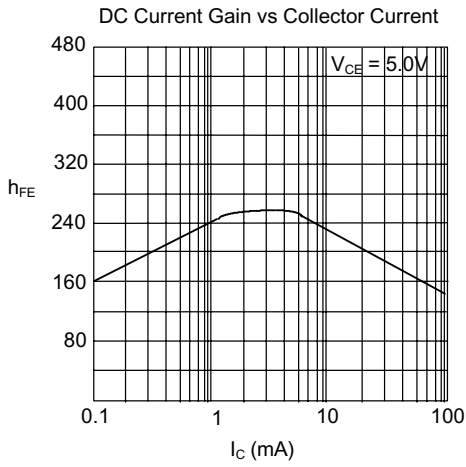
<b>SWITCHING CHARACTERISTICS</b>				
t <sub>d</sub>	Delay Time	(V <sub>CC</sub> =30Vdc, V <sub>BE</sub> =0.5Vdc I <sub>C</sub> =150mAdc, I <sub>B1</sub> =15mAdc)	10	ns
t <sub>r</sub>	Rise Time		25	ns
t <sub>s</sub>	Storage Time	(V <sub>CC</sub> =30Vdc, I <sub>C</sub> =150mAdc I <sub>B1</sub> =I <sub>B2</sub> =15mAdc)	225	ns
t <sub>f</sub>	Fall Time		60	ns

\*Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%

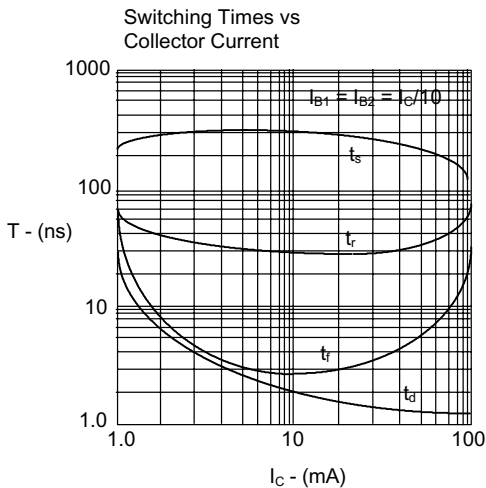
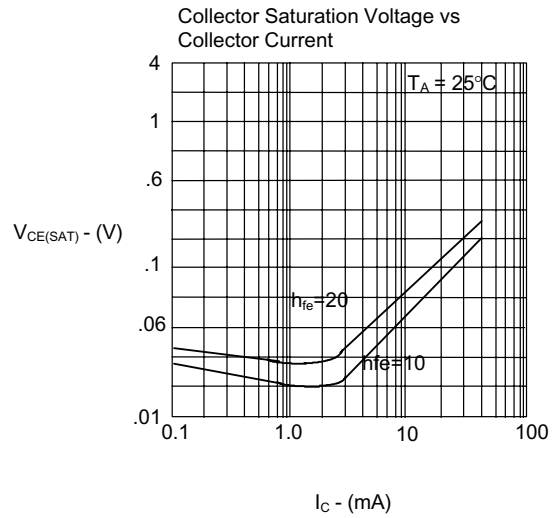
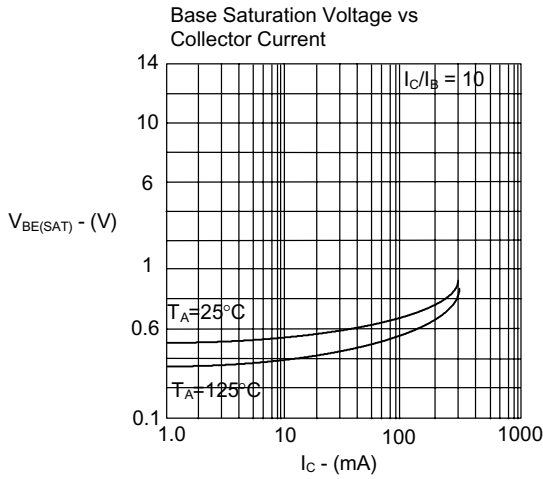
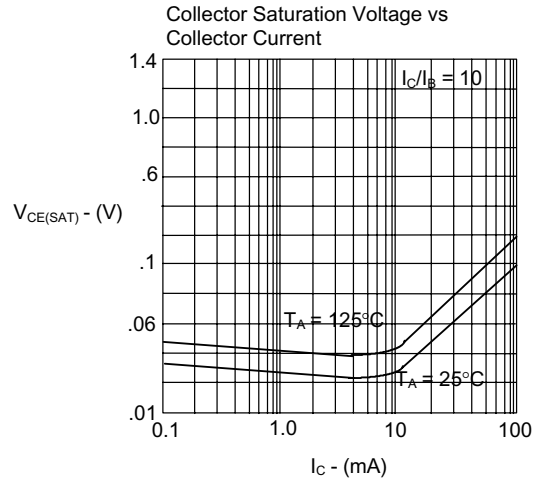
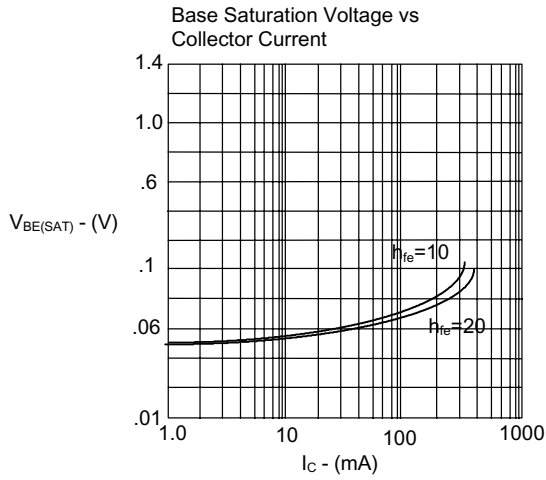


DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.175	.185	4.45	4.70	
B	.175	.185	4.45	4.70	
C	.500	-----	12.70	-----	
D	.016	.020	0.41	0.56	
E	.135	.145	3.43	3.68	
G	.095	.105	2.42	2.67	

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## Ordering Information

Device	Packing
(Part Number)-AP	Tape&Reel;2Kpcs/Box
(Part Number)-BP	Bulk;1Kpcs/Bag

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