



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 (I_C) = 600mA.
- Operating and storage temperature range (T_j & T_{stg}) from -55°C ~ $+150^\circ\text{C}$
- 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
OFF CHARACTERISTICS				
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage* ($I_C=10\text{mAdc}$, $I_B=0$)	40		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=10\mu\text{Adc}$, $I_E=0$)	75		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=10\mu\text{Adc}$, $I_C=0$)	6.0		Vdc
I_{BL}	Base Cutoff Current ($V_{CE}=60\text{Vdc}$, $V_{BE}=3.0\text{Vdc}$)		20	nAdc
I_{CEX}	Collector Cutoff Current ($V_{CE}=60\text{Vdc}$, $V_{BE}=3.0\text{Vdc}$)		10	nAdc

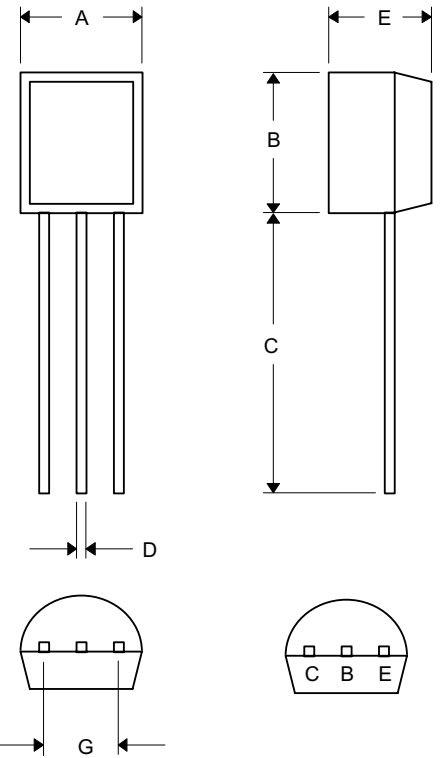
ON CHARACTERISTICS				
h_{FE}	DC Current Gain* ($I_C=0.1\text{mAdc}$, $V_{CE}=10\text{Vdc}$) ($I_C=1.0\text{mAdc}$, $V_{CE}=10\text{Vdc}$) ($I_C=10\text{mAdc}$, $V_{CE}=10\text{Vdc}$) ($I_C=150\text{mAdc}$, $V_{CE}=10\text{Vdc}$) ($I_C=150\text{mAdc}$, $V_{CE}=1.0\text{Vdc}$) ($I_C=500\text{mAdc}$, $V_{CE}=10\text{Vdc}$)	35 50 75 100 50 40	300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=150\text{mAdc}$, $I_B=15\text{mAdc}$) ($I_C=500\text{mAdc}$, $I_B=50\text{mAdc}$)		0.3 1.0	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=150\text{mAdc}$, $I_B=15\text{mAdc}$) ($I_C=500\text{mAdc}$, $I_B=50\text{mAdc}$)	0.6	1.2 2.0	Vdc

SMALL-SIGNAL CHARACTERISTICS				
f_T	Current Gain-Bandwidth Product ($I_C=20\text{mAdc}$, $V_{CE}=20\text{Vdc}$, $f=100\text{MHz}$)	300		MHz
C_{obo}	Output Capacitance ($V_{CB}=10\text{Vdc}$, $I_E=0$, $f=100\text{kHz}$)		8.0	pF
C_{ibo}	Input Capacitance ($V_{BE}=0.5\text{Vdc}$, $I_C=0$, $f=100\text{kHz}$)		25	pF
NF	Noise Figure ($I_C=100\mu\text{Adc}$, $V_{CE}=10\text{Vdc}$, $R_S=1.0\text{k}\Omega$, $f=1.0\text{kHz}$)		4.0	dB

SWITCHING CHARACTERISTICS				
t_d	Delay Time	($V_{CC}=30\text{Vdc}$, $V_{BE}=0.5\text{Vdc}$)	10	ns
t_r	Rise Time	($I_C=150\text{mAdc}$, $I_B=15\text{mAdc}$)	25	ns
t_s	Storage Time	($V_{CC}=30\text{Vdc}$, $I_C=150\text{mAdc}$)	225	ns
t_f	Fall Time	($I_{B1}=I_{B2}=15\text{mAdc}$)	60	ns

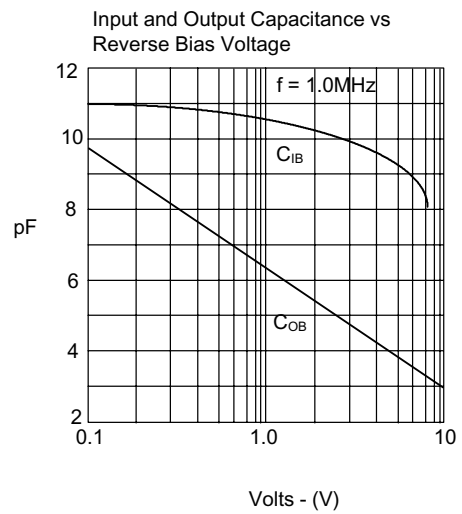
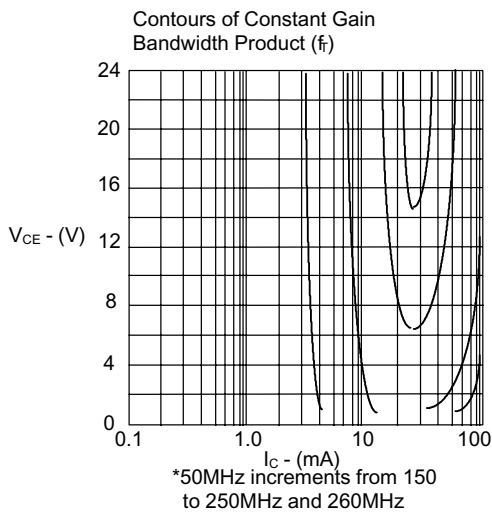
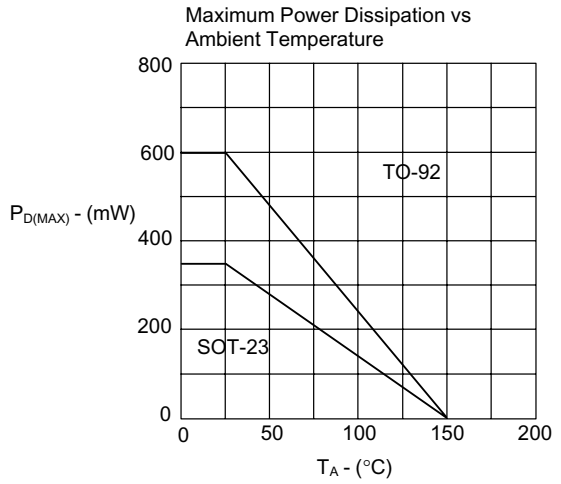
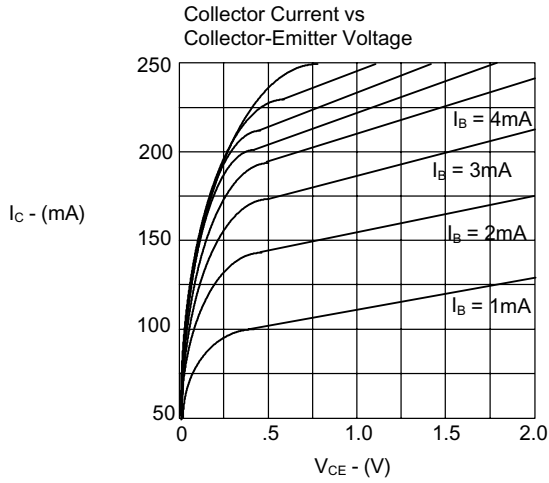
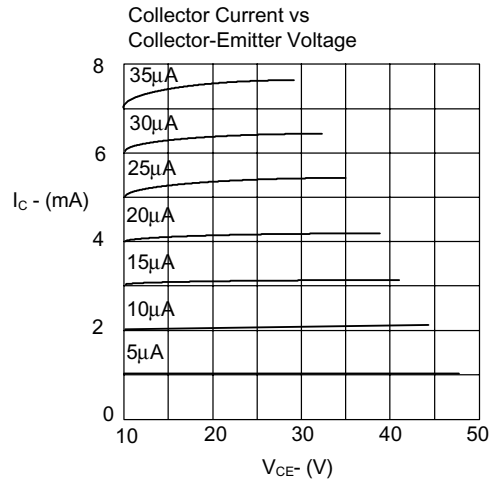
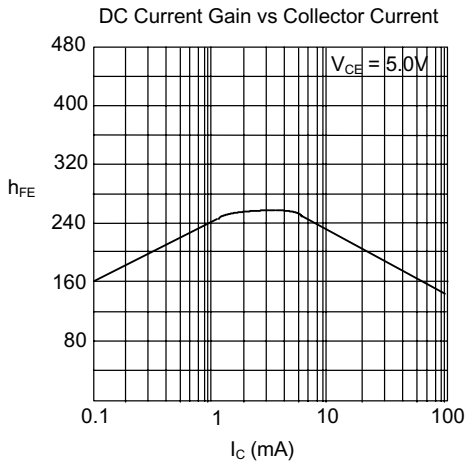
*Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$

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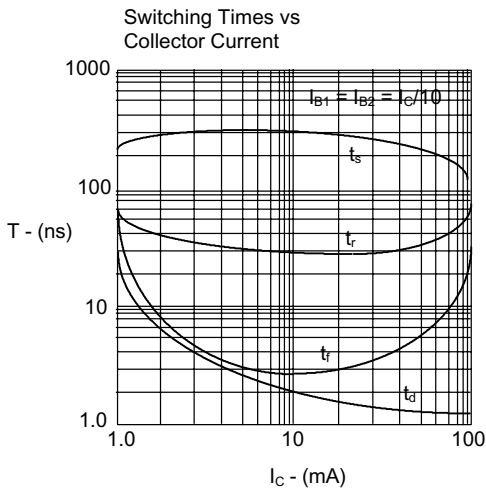
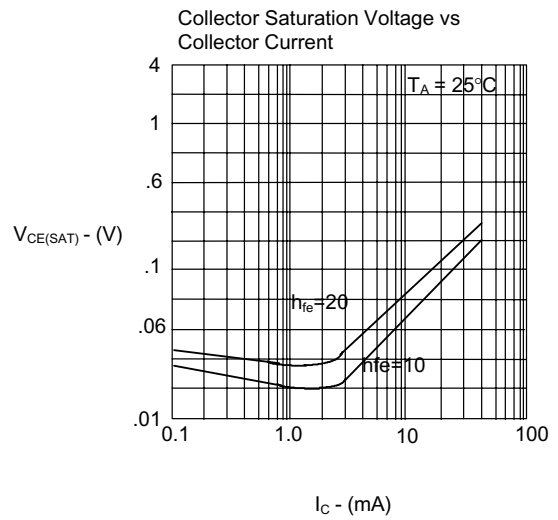
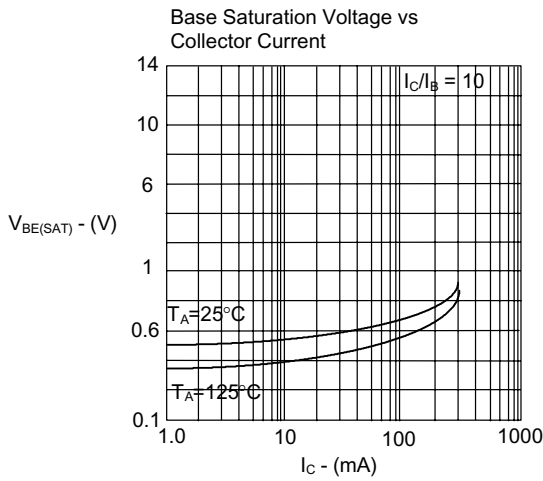
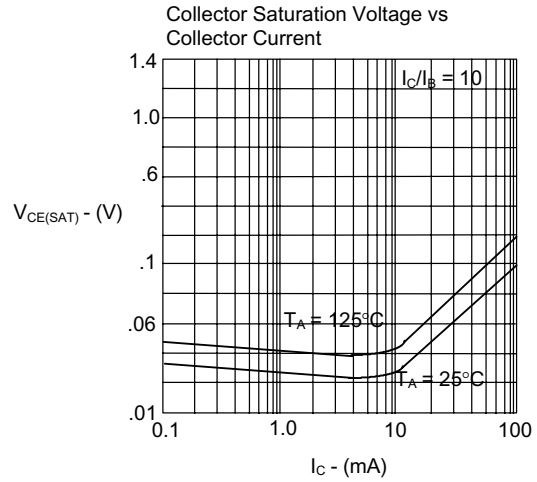
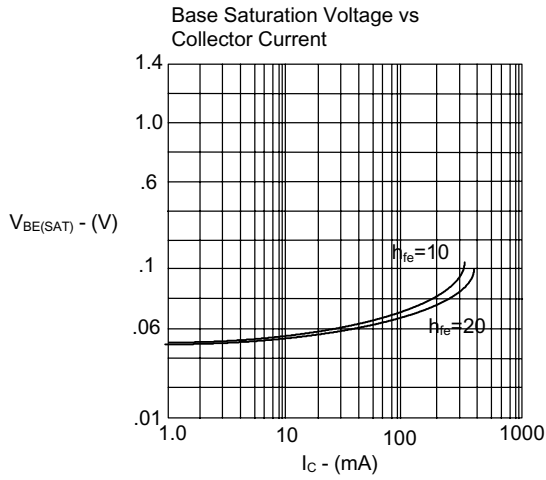


DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.175	.185	4.45	4.70	
B	.175	.185	4.45	4.70	
C	.500	-----	12.70	-----	
D	.016	.020	0.41	0.56	
E	.135	.145	3.43	3.68	
G	.095	.105	2.42	2.67	

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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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