Micro Commercial Components

Micro Commercial Components
20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

PN2222A

625mW NPN General Purpose Amplifier

Features

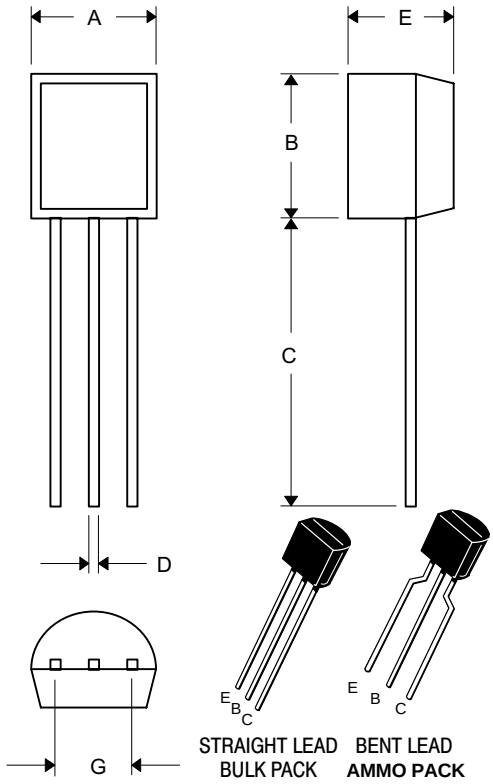
- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Marking:Type number
- Continuous Collector Current (Ic) =600mA.
- Operating and storange temperature range(Tj&Tstg) from -55°C ~+150 °C
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1
- Thermal Resistance Junction to Ambient:200°C/W
  Thermal Resistance Junction to Case 83.3°C/W

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
OFF CHARACTERISTICS				
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage* (I_C=10mAdc, I_B=0)	40		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (I_C=10μAdc, I_E=0)	75		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage (I_E=10μAdc, I_C=0)	6.0		Vdc
I_{BL}	Base Cutoff Current (V_{CE}=60Vdc, V_{BE}=3.0Vdc)		20	nAdc
I_{CEX}	Collector Cutoff Current (V_{CE}=60Vdc, V_{BE}=3.0Vdc)		10	nAdc
ON CHARACTERISTICS				
h_{FE}	DC Current Gain* (I_C=0.1mAdc, V_{CE}=10Vdc) (I_C=1.0mAdc, V_{CE}=10Vdc) (I_C=10mAdc, V_{CE}=10Vdc) (I_C=150mAdc, V_{CE}=10Vdc) (I_C=150mAdc, V_{CE}=1.0Vdc) (I_C=500mAdc, V_{CE}=10Vdc)	35 50 75 100 50 40	300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage (I_C=150mAdc, I_B=15mAdc) (I_C=500mAdc, I_B=50mAdc)		0.3 1.0	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage (I_C=150mAdc, I_B=15mAdc) (I_C=500mAdc, I_B=50mAdc)	0.6	1.2 2.0	Vdc
SMALL-SIGNAL CHARACTERISTICS				
f_T	Current Gain-Bandwidth Product (I_C=20mAdc, V_{CE}=20Vdc, f=100MHz)	300		MHz
C_{obo}	Output Capacitance (V_{CB}=10Vdec, I_E=0, f=100kHz)		8.0	pF
C_{ibo}	Input Capacitance (V_{BE}=0.5Vdc, I_C=0, f=100kHz)		25	pF
NF	Noise Figure (I_C=100μAdc, V_{CE}=10Vdc, R_S=1.0kΩ f=1.0kHz)		4.0	dB
SWITCHING CHARACTERISTICS				
t_d	Delay Time	(V_{CC}=30Vdc, V_{BE}=0.5Vdc	10	ns
t_r	Rise Time	I_C=150mAdc, I_{B1}=15mAdc)	25	ns
t_s	Storage Time	(V_{CC}=30Vdc, I_C=150mAdc	225	ns
t_f	Fall Time	I_{B1}=I_{B2}=15mAdc)	60	ns

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

TO-92

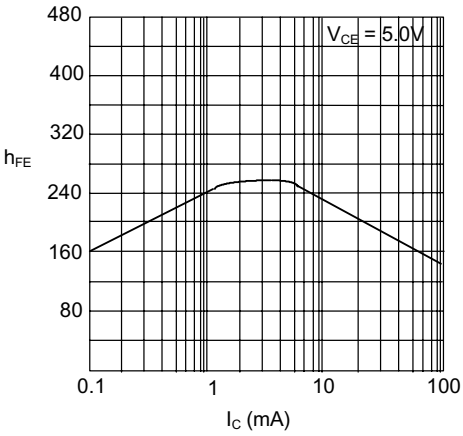


DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	.175	.185	4.45	4.70	
B	.175	.185	4.45	4.70	
C	.500	---	12.70	---	
D	.016	.020	0.41	0.63	
E	.135	.145	3.43	3.68	
G	.095	.105	2.42	2.67	Straight Lead
	.173	.220	4.40	5.60	Bent Lead

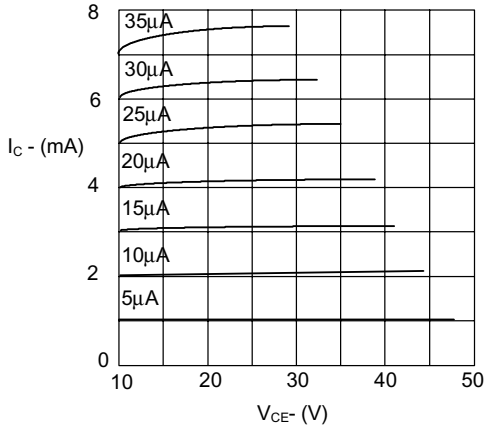
* For ammo packing detailed specification, click here to visit our website of product packaging for details.

PN2222A

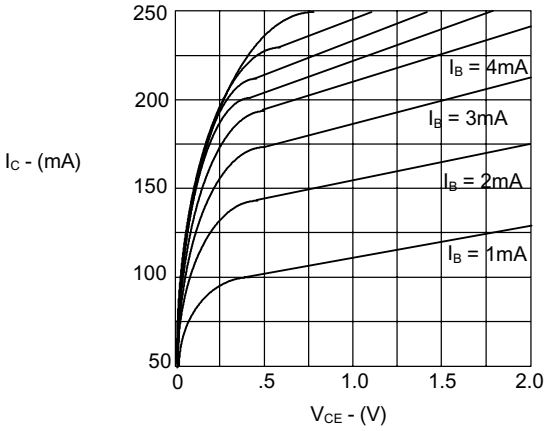
DC Current Gain vs Collector Current



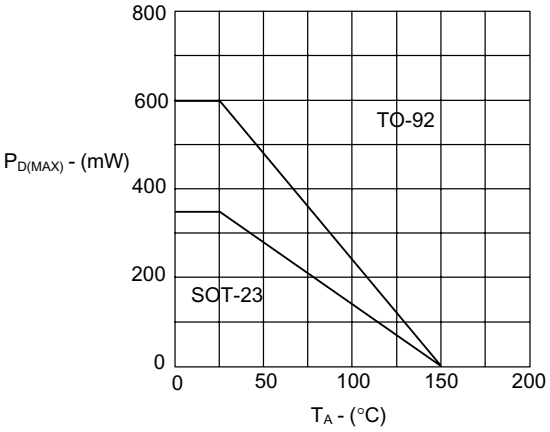
Collector Current vs Collector-Emitter Voltage



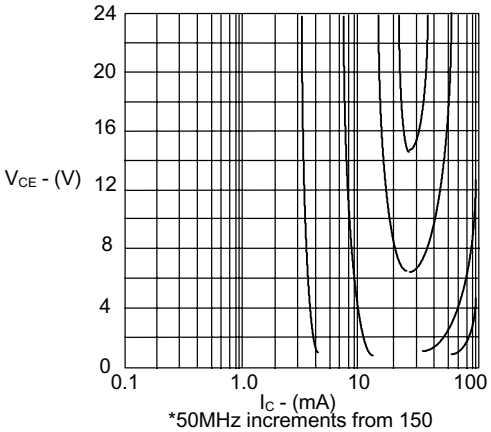
Collector Current vs Collector-Emitter Voltage



Maximum Power Dissipation vs Ambient Temperature

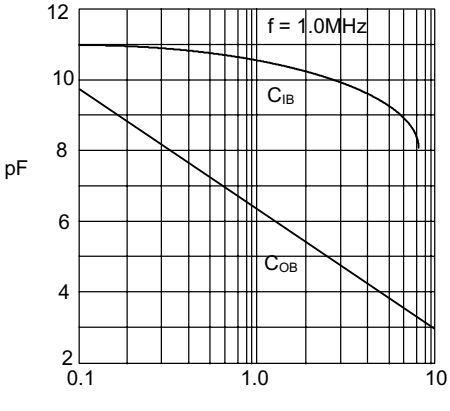


Contours of Constant Gain Bandwidth Product (f_t)



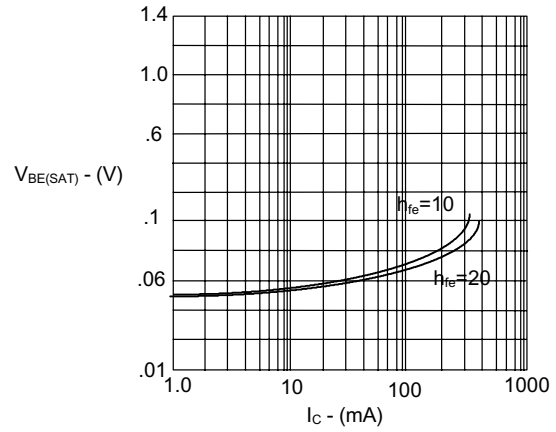
*50MHz increments from 150 to 250MHz and 260MHz

Input and Output Capacitance vs Reverse Bias Voltage

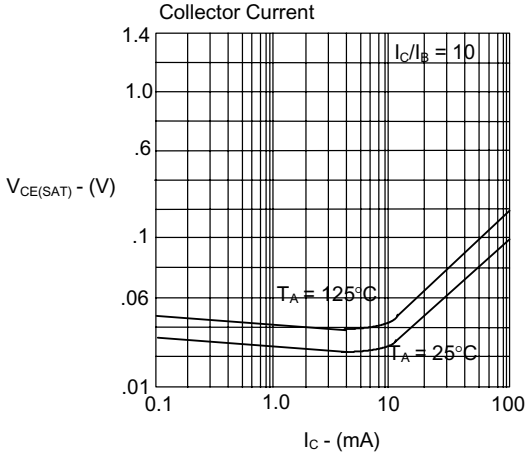


PN2222A

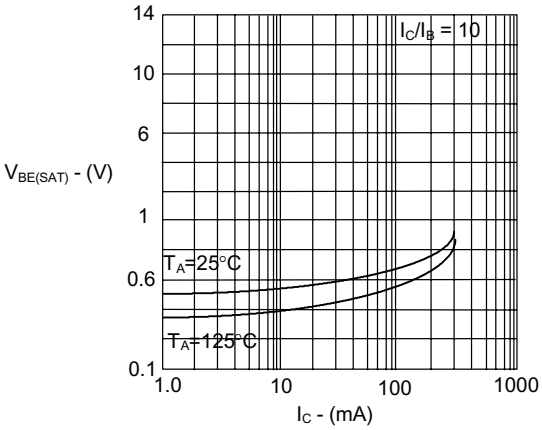
Base Saturation Voltage vs Collector Current



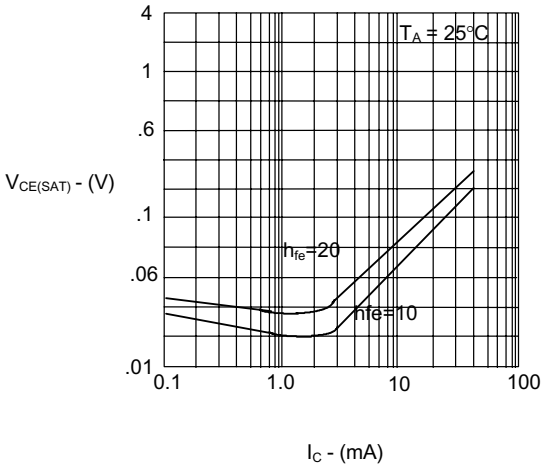
Collector Saturation Voltage vs Collector Current



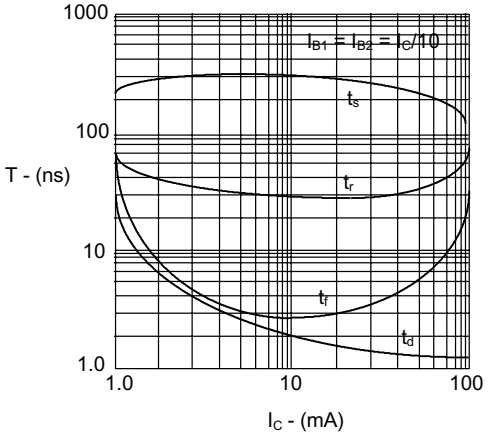
Base Saturation Voltage vs Collector Current



Collector Saturation Voltage vs Collector Current



Switching Times vs Collector Current



Micro Commercial Components

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

*****IMPORTANT NOTICE*****

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . ***Micro Commercial Components Corp .*** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold ***Micro Commercial Components Corp .*** and all the companies whose products are represented on our website, harmless against all damages.

*****LIFE SUPPORT*****

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

*****CUSTOMER AWARENESS*****

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.