



2N4401

NPN General Purpose Amplifier

Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Capable of 600mWatts of Power Dissipation
- Halogen free available upon request by adding suffix "-HF"
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: Type number
- 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
OFF CHARACTERISTICS				
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage* ($I_C=1.0mA_{dc}$, $I_B=0$)	40		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=0.1mA_{dc}$, $I_E=0$)	60		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=0.1mA_{dc}$, $I_C=0$)	6.0		Vdc
I_{BL}	Base Cutoff Current ($V_{CE}=35V_{dc}$, $V_{BE}=0.4V_{dc}$)		0.1	μA_{dc}
I_{CEX}	Collector Cutoff Current ($V_{CE}=35V_{dc}$, $V_{BE}=0.4V_{dc}$)		0.1	μA_{dc}

ON CHARACTERISTICS

h_{FE}	DC Current Gain* ($I_C=0.1mA_{dc}$, $V_{CE}=1.0V_{dc}$) ($I_C=1.0mA_{dc}$, $V_{CE}=1.0V_{dc}$) ($I_C=10mA_{dc}$, $V_{CE}=1.0V_{dc}$) ($I_C=150mA_{dc}$, $V_{CE}=1.0V_{dc}$) ($I_C=500mA_{dc}$, $V_{CE}=1.0V_{dc}$)	20 40 80 100 40	300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=150mA_{dc}$, $I_B=15mA_{dc}$) ($I_C=500mA_{dc}$, $I_B=50mA_{dc}$)		0.4 0.75	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=150mA_{dc}$, $I_B=15mA_{dc}$) ($I_C=500mA_{dc}$, $I_B=50mA_{dc}$)	0.75	0.95 1.2	Vdc

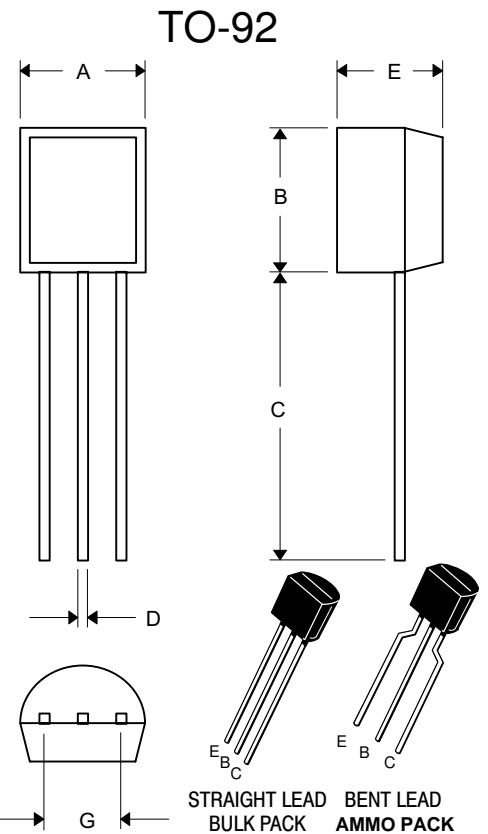
SMALL-SIGNAL CHARACTERISTICS

f_T	Current Gain-Bandwidth Product ($I_C=20mA_{dc}$, $V_{CE}=10V_{dc}$, $f=100MHz$)	250		MHz
C_{cb}	Collector-Base Capacitance ($V_{CB}=5.0V_{dc}$, $I_E=0$, $f=100kHz$)		6.5	pF
C_{eb}	Emitter-Base Capacitance ($V_{BE}=0.5V_{dc}$, $I_C=0$, $f=100kHz$)		30.0	pF

SWITCHING CHARACTERISTICS

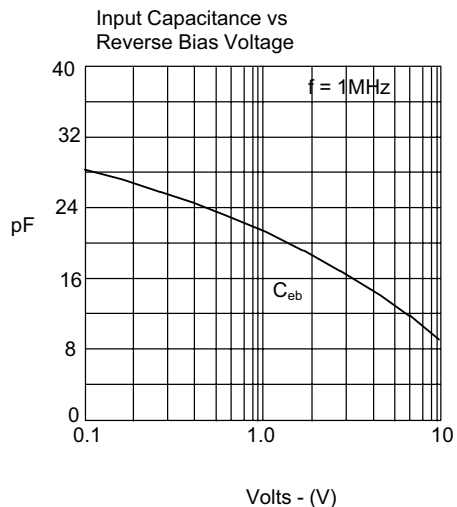
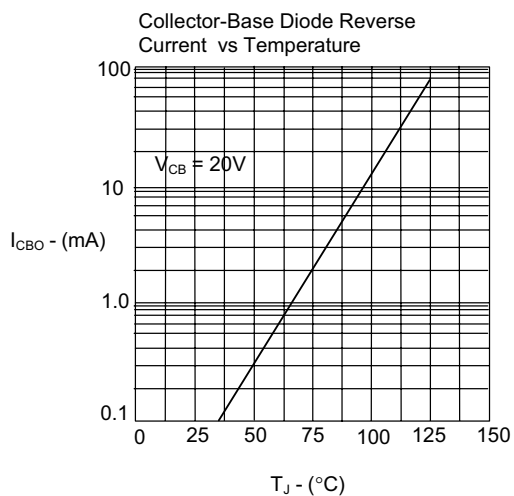
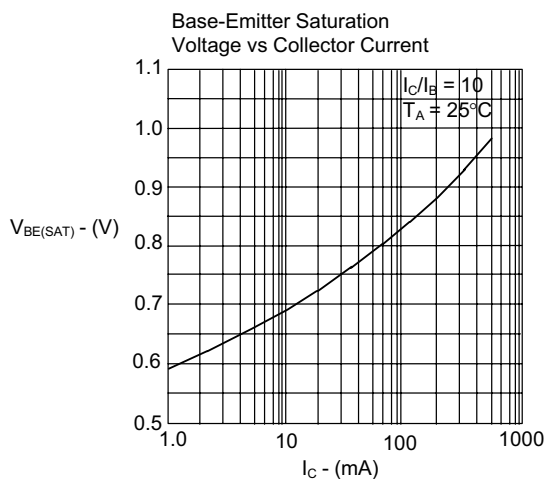
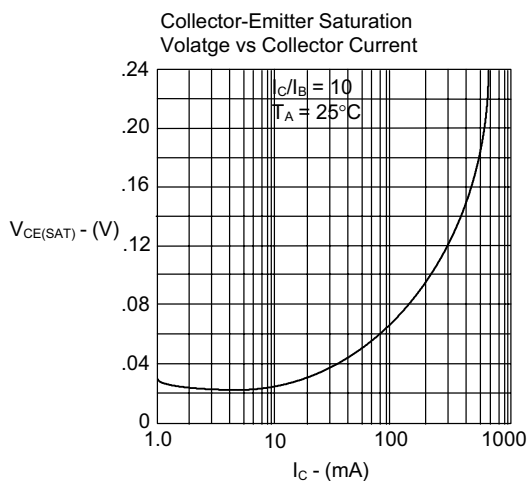
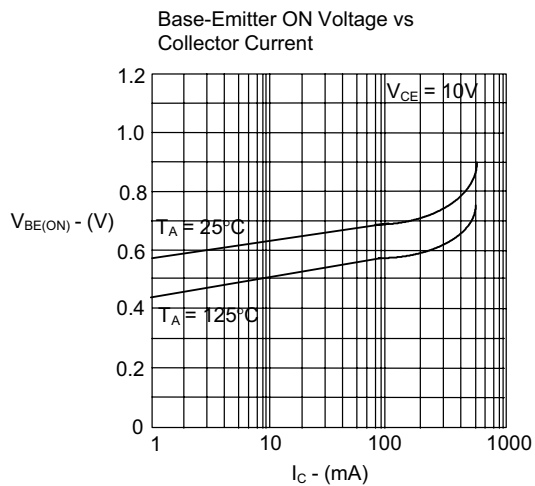
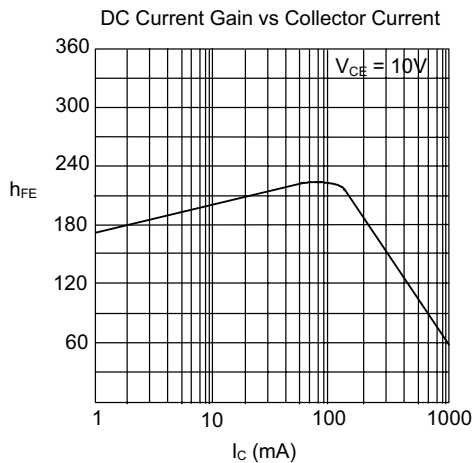
t_d	Delay Time	($V_{CC}=30V_{dc}$, $V_{BE}=0.2V_{dc}$)	15	ns
t_r	Rise Time	($I_C=150mA_{dc}$, $I_{B1}=15mA_{dc}$)	20	ns
t_s	Storage Time	($V_{CC}=30V_{dc}$, $I_C=150mA_{dc}$)	225	ns
t_f	Fall Time	($I_{B1}=I_{B2}=15mA_{dc}$)	30	ns

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



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

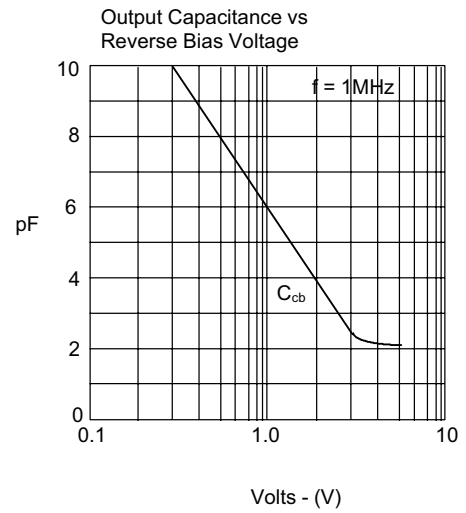
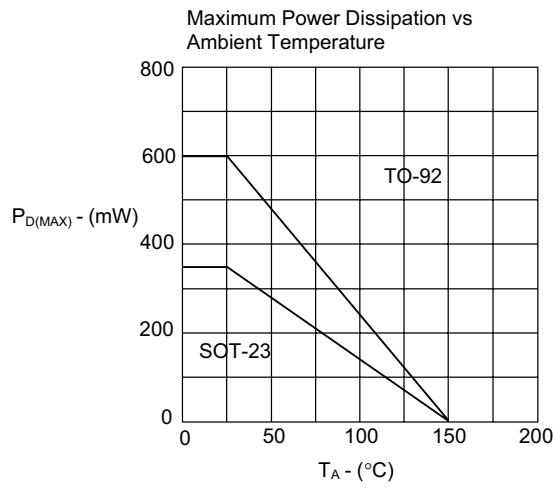
* For ammo packing detailed specification, click here to visit our website of product packaging for details.



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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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