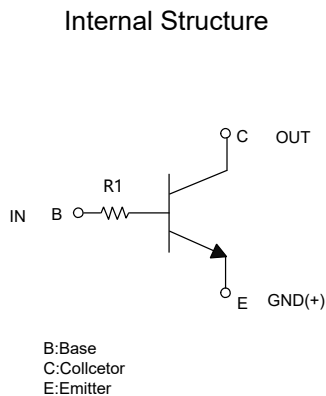


Features

- Built-In Bias Resistors Enable the Configuration of an Inverter Circuit Without Connecting External Input Resistors
- The Bias Resistors Consist of Thin-Film Resistors With Complete Isolation to Allow Negative Biasing of the Input. They Also Have the Advantage of Almost Completely Eliminating Parasitic Effects
- Only the On/Off Conditions Need to Be Set For Operation, Making Device Design Easy
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

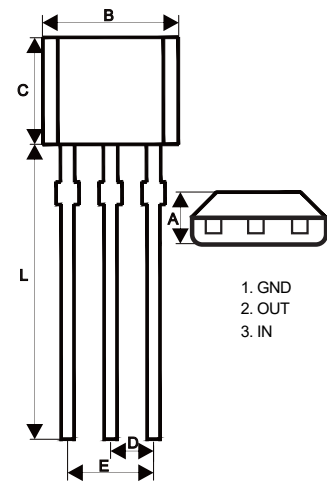
Maximum Ratings @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Unit
Collector-Emitter Voltage	V_{CEO}	---	50	---	V
Collector-Base Voltage	V_{CBO}	---	50	---	V
Emitter-Base Voltage	V_{EBO}	---	5	---	mA
Collector Current-Continuous	I_C	---	100	---	mA
Power Dissipation	P_D	---	300	---	mW
Junction Temperature	T_J	---	150	---	°C
Storage Temperature Range	T_{STG}	-55	---	150	°C



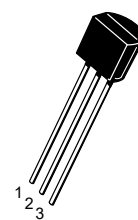
NPN Digital Transistor

TO-92S

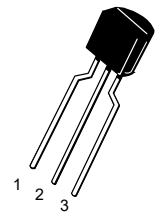


DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.056	0.064	1.42	1.62	
B	0.154	0.161	3.90	4.10	
C	0.120	0.128	3.05	3.25	
D	0.050		1.27		Straight Lead Bent Lead
	0.086	0.110	2.20	2.80	
E	0.096	0.104	2.44	2.64	Straight Lead Bent Lead
	0.173	0.220	4.40	5.60	
L	0.594	0.610	15.10	15.50	



STRAIGHT LEAD
BULK PACK



BENT LEAD
AMMO PACK

Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	50	---	---	V	$I_C=50\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	50	---	---	V	$I_C=1mA, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5	---	---	V	$I_E=50\mu A, I_C=0$
Collector Cut-off Current	I_{CBO}	---	---	0.5	μA	$V_{CB}=50V, I_E=0$
Emitter Cut-off Current	I_{EBO}	---	---	0.5	μA	$V_{EB}=4V, I_C=0$
DC Current Gain	h_{FE}	100	---	600	---	$I_C=1mA, V_{CE}=5V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	---	---	0.3	V	$I_C=5mA, I_B=0.5mA$
Input Resistance	R_i	32.9	47	61.1	K Ω	
Transition Frequency	f_T	---	250	---	MHz	$V_{CE}=10.0V, I_E=-5mA, f=100MHz$

Curve Characteristics

Fig. 1 - Static Characteristics

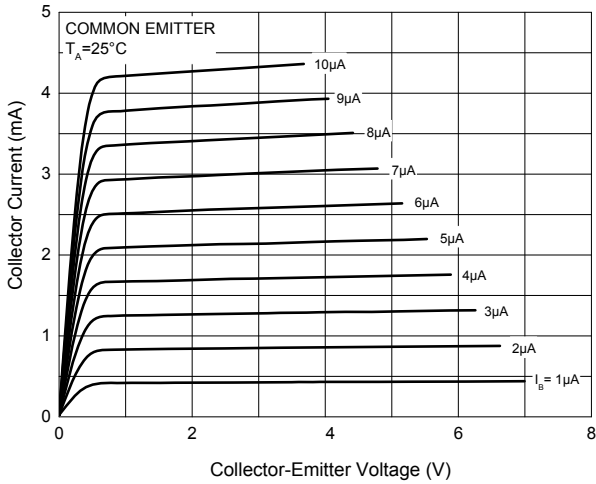


Fig. 2 - DC Current Gain Characteristics

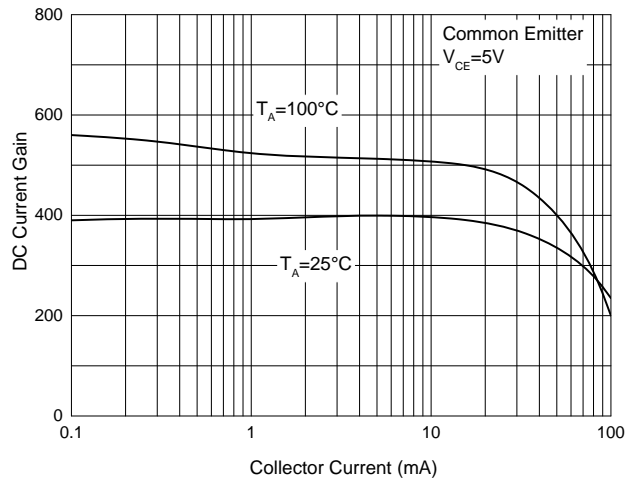


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

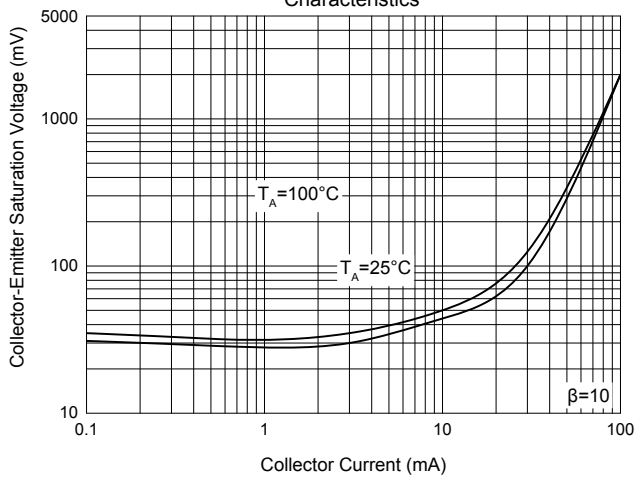
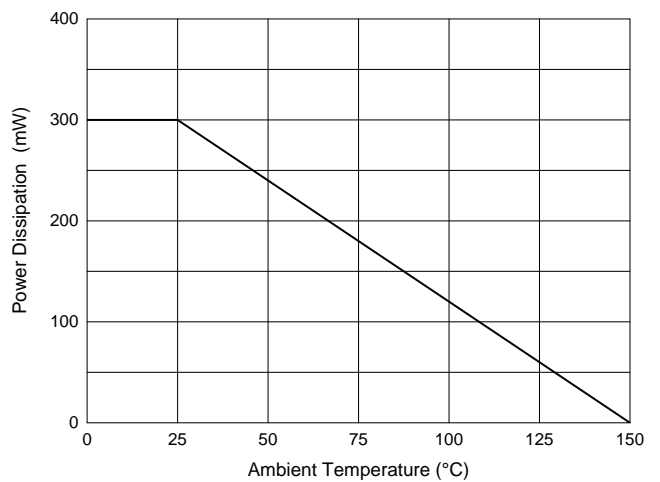


Fig. 3 - Power Derating Curve



Ordering Information

Device	Packing
Part Number-AP	Ammo Packing: 30Kpcs/Carton
Part Number-BP	Bulk: 100Kpcs/Carton

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

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