Micro Commercial Components

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DTC144TUA

NPN Digital Transistor

Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit)
- 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"

Absolute Maximum Ratings

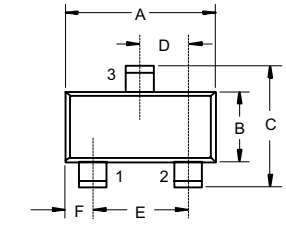
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base voltage	V_{EBO}	5	V
Collector Current-Continuous	I_C	100	mA
Collector Dissipation	P_C	200	mW
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{STG}	-55~150	℃

Electrical Characteristics

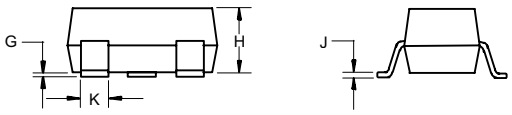
Sym	Parameter	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (I_C=50uA, I_E=0)	50	---	---	V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage (I_C=1mA, I_B=0)	50	---	---	V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage (I_E=50uA, I_C=0)	5	---	---	V
I_{CBO}	Collector Cut-off Current (V_{CB}=50V, I_E=0)	---	---	0.5	uA
I_{EBO}	Emitter Cut-off Current (V_{EB}=4V, I_C=0)	---	---	0.5	uA
h_{FE}	DC Current Gain (V_{CE}=5V, I_C=1mA)	100	300	600	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage (I_C=10mA, I_B=1mA)	---	---	0.3	V
R_1	Input resistance	32.9	47	61.1	KΩ
f_T	Transition Frequency (V_{CE}=10V, I_C=-5mA, f=100MHz)	---	250	---	MHz

*Marking: 06

SOT-323

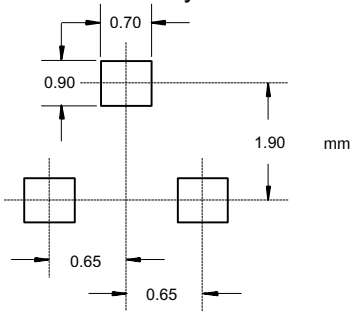


1: IBase
2: Emitter
3: Collector



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.079	.087	2.00	2.20	
D	.026 Nominal		0.65Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.012	.016	.30	.40	

Suggested Solder Pad Layout



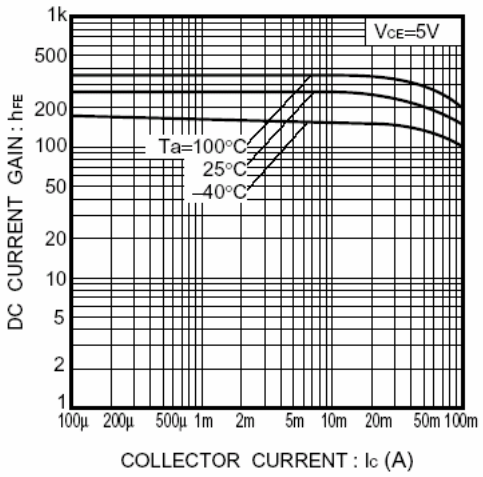


Fig.1 DC current gain vs. collector current

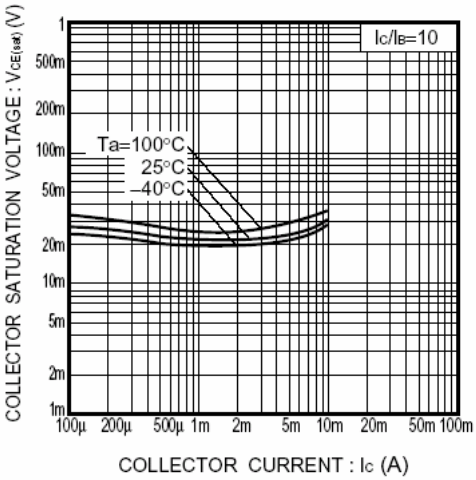
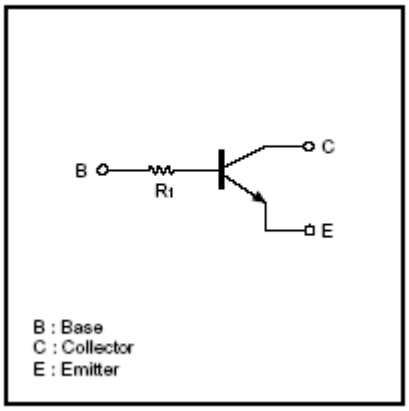


Fig.2 Collector-emitter saturation voltage vs. collector current

●Equivalent circuit



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Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel;3Kpcs/Reel

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