



Micro Commercial Components

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

TIP29,A,B,C(NPN) TIP30,A,B,C(PNP)

Features

- Designed for use in general purpose amplifier and switching applications. Compact TO-220 package.
- 1.0A Collector Current
- $R_{th(jc)}$ is 4.167°C/W, $R_{th(ja)}$ is 62.5°C/W
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0

Maximum Ratings

Symbol	Rating	Rating	Unit	
V_{CEO}	Collector-Emitter Voltage	TIP29, TIP30 TIP29A, TIP30A	40 60	V
V_{CBO}	Collector-Base Voltage	TIP29B, TIP30B TIP29C, TIP30C	80 100	
V_{EB}	Emitter-Base Voltage		5.0	
I_C	Collector Current- Continuous		1.0	A
	Peak ⁽¹⁾		3.0	
I_B	Base Current-Continuous		0.4	A
P_D	Total power dissipation @ $T_C=25^\circ C$		30	W
	Derate above 25°C		0.24	
$T_{J,}$	Junction Temperature		-55 to +150	°C
T_{STG}	Storage Temperature		-55 to +150	°C

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
--------	-----------	-----	-----	-------

OFF CHARACTERISTICS

$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage ⁽¹⁾ ($I_C=30mA$, $I_B=0$)	TIP29, TIP30 TIP29A, TIP30A TIP29B, TIP30B TIP29C, TIP30C	40 60 80 100	---	Vdc	
I_{EBO}	Emitter-Base Cutoff Current ($V_{EB}=5.0V$, $I_C=0$)		---	1.0		mAdc
I_{CES}	Collector Cutoff Current ($V_{CE}=40V$, $V_{EB}=0$) ($V_{CE}=60V$, $V_{EB}=0$) ($V_{CE}=80V$, $V_{EB}=0$) ($V_{CE}=100V$, $V_{EB}=0$)	TIP29, TIP30 TIP29A, TIP30A TIP29B, TIP30B TIP29C, TIP30C	---	200 200 200 200		uAdc
I_{CEO}	Collector Cutoff Current ($V_{CE}=30V$, $I_B=0$) TIP29, TIP29A, TIP30, TIP30A ($V_{CE}=60V$, $I_B=0$) TIP29B, TIP29C, TIP30B, TIP30C		---	0.3 0.3		

ON CHARACTERISTICS⁽²⁾

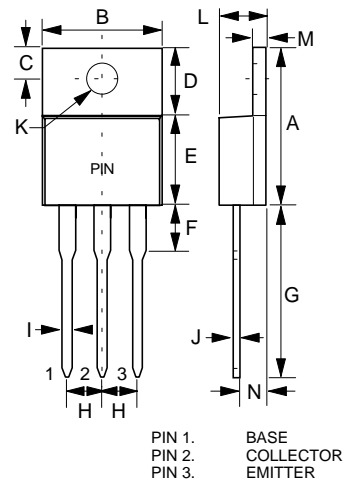
$h_{FE(1)}$	DC Current Gain ($I_C=0.2A$, $V_{CE}=4.0V$) ($I_C=1.0A$, $V_{CE}=4.0V$)	40 15	---	75	----
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=1.0A$, $I_B=125mA$)	---		0.7	Vdc
$V_{BE(ON)}$	Base-Emitter On Voltage ($I_C=1.0A$, $V_{CE}=4.0A$)	---		1.3	Vdc
f_T	Current-Gain-Bandwidth Product ⁽²⁾ ($I_C=200mA$, $V_{CE}=10V$, $f=1.0MHz$)	3.0	---		MHz
h_{fe}	Small-Signal Current Gain ($I_C=0.2A$, $V_{CE}=10V$, $f=1.0KHz$)	20	---		---

(1) Pulse Test: Pulse Width=300us, Duty Cycle <2.0%

(2) $f_T = |h_{fe}| \times f_{test}$

1.0 Amp Complementary Silicon Power Transistors

TO-220



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.560	.625	14.22	15.88	
B	.380	.420	9.65	10.67	
C	.100	.135	2.54	3.43	
D	.230	.270	5.84	6.86	
E	.380	.420	9.65	10.67	
F	-----	.250	-----	6.35	
G	.500	.580	12.70	14.73	
H	.090	.110	2.29	2.79	
I	.020	.045	0.51	1.14	
J	.012	.025	0.30	0.64	
K	.139	.161	3.53	4.09	∅
L	.140	.190	3.56	4.83	
M	.045	.055	1.14	1.40	
N	.080	.115	2.03	2.92	

TIP29,A,B,C(NPN) TIP30,A,B,C(PNP)

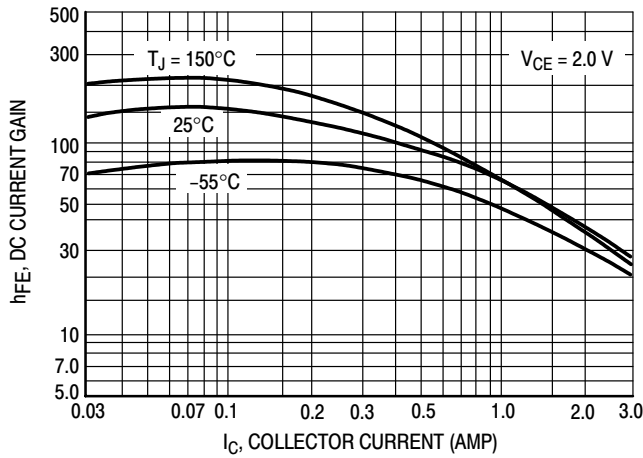


Figure 1. DC Current Gain

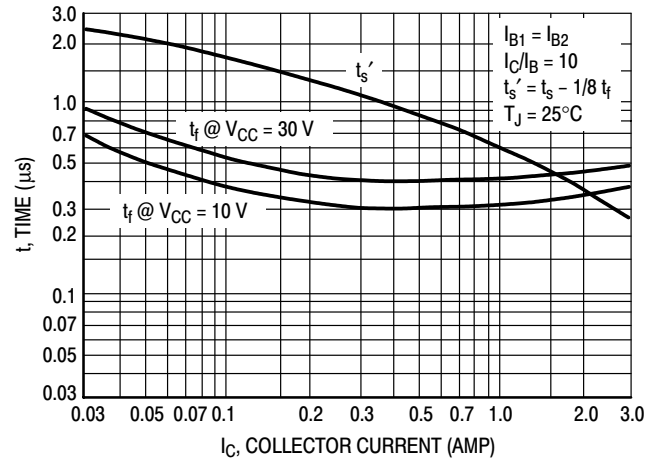


Figure 2. Turn-Off Time

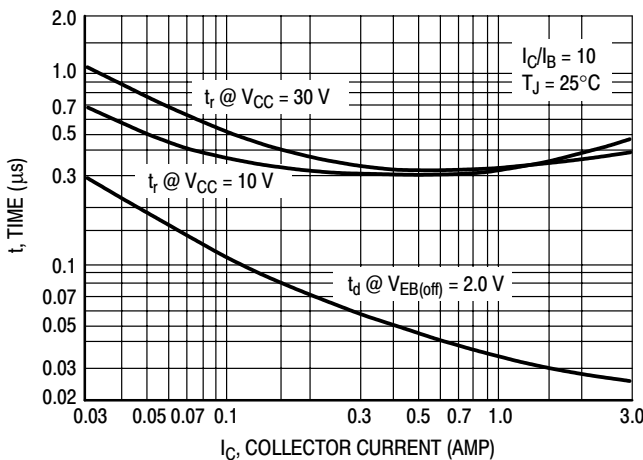


Figure 3. Turn-On Time

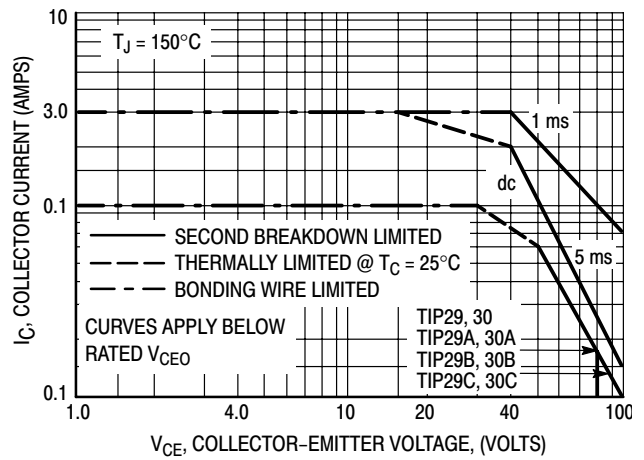


Figure 4. Active Region Safe Operating Area



Micro Commercial Components

*****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.

*****APPLICATIONS DISCLAIMER*****

Products offer by *Micro Commercial Components Corp.* are not intended for use in Medical, Aerospace or Military Applications.