

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

Features

- Halogen free available upon request by adding suffix "-HF"
- Mounting Torque: 5 in-lbs Maximum
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Marking: Type Number
- $R_{th(jc)}$ is 4.167°C/W, $R_{th(ja)}$ is 62.5°C/W
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Maximum Ratings

Symbol	Rating		Rating	Unit
V _{CEO}	Collector-Emitter Voltage	TIP29, TIP30	40	V
V _{CBO}	Collector-Base Voltage	TIP29A, TIP30A	60	
		TIP29B, TIP30B	80	
		TIP29C, TIP30C	100	
V _{EB}	Emitter-Base Voltage		5.0	V
I _C	Collector Current- Continuous Peak ⁽¹⁾		1.0 3.0	A
I _B	Base Current-Continuous		0.4	A
P _D	Total power dissipation @T _C =25°C Derate above 25°C		30 0.24	W W/°C
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

$V_{CE(sus)}$	Collector-Emitter Sustaining Voltage ^(note 2) ($I_C=30\text{mA}$, $I_B=0$)	TIP29, TIP30 TIP29A, TIP30A TIP29B, TIP30B TIP29C, TIP30C	40 60 80 100	---	Vdc
I_{EBO}	Emitter-Base Cutoff Current ($V_{EB}=5.0\text{Vdc}$, $I_C=0$)		---	1.0	mA
I_{CES}	Collector Cutoff Current ($V_{CE}=40\text{V}$, $V_{EB}=0$) ($V_{CE}=60\text{V}$, $V_{EB}=0$) ($V_{CE}=80\text{V}$, $V_{EB}=0$) ($V_{CE}=100\text{V}$, $V_{EB}=0$)	TIP29, TIP30 TIP29A, TIP30A TIP29B, TIP30B TIP29C, TIP30C	---	200 200 200 200	uA
I_{CEO}	Collector Cutoff Current ($V_{CE}=30\text{Vdc}$, $I_B=0$) TIP29, TIP29A, TIP30, TIP30A ($V_{CE}=60\text{Vdc}$, $I_B=0$) TIP29B, TIP29C, TIP30B, TIP30C		---	0.3 0.3	mA

ON CHARACTERISTICS⁽²⁾

$h_{FE(1)}$	DC Current Gain ($I_C=0.2\text{A}$, $V_{CE}=4.0\text{Vdc}$) ($I_C=1.0\text{A}$, $V_{CE}=4.0\text{Vdc}$)	40 15	---	75	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=1.0\text{A}$, $I_B=125\text{mA}$)	---	0.7		Vdc
$V_{BE(ON)}$	Base-Emitter On Voltage ($I_C=1.0\text{A}$, $V_{CE}=4.0\text{Vdc}$)	---	1.3		Vdc
f_T	Current-Gain-Bandwidth Product ^(note 3) ($I_C=200\text{mA}$, $V_{CE}=10\text{Vdc}$, $f=1.0\text{MHz}$)	3.0	---		MHz
h_{fe}	Small-Signal Current Gain ($I_C=0.2\text{A}$, $V_{CE}=10\text{Vdc}$, $f=1.0\text{kHz}$)	20	---		---

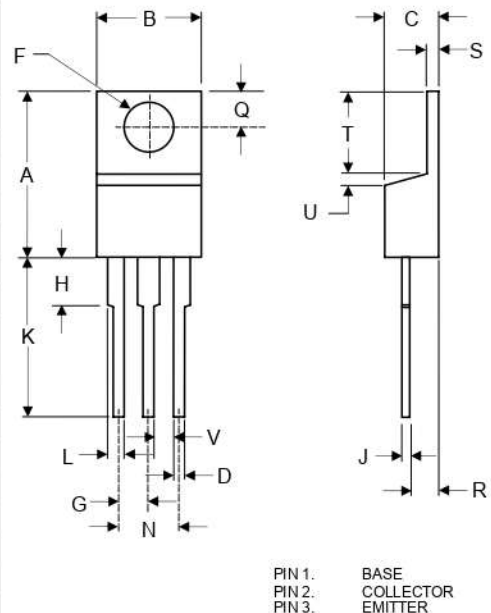
Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex 7.

2. Pulse Test: Pulse Width=300us, Duty Cycle <2.0%

3. $f_T = |h_{fe}| \times f_{test}$

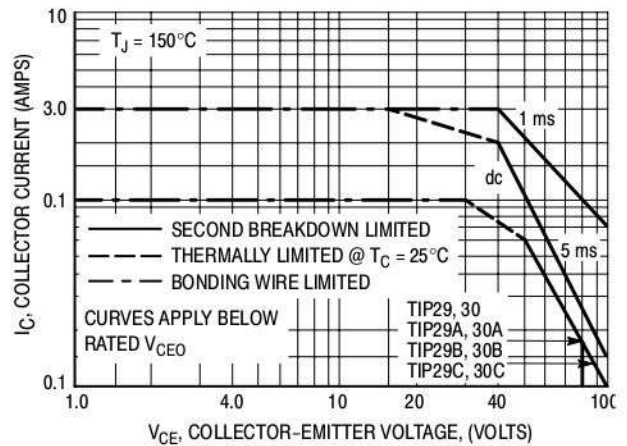
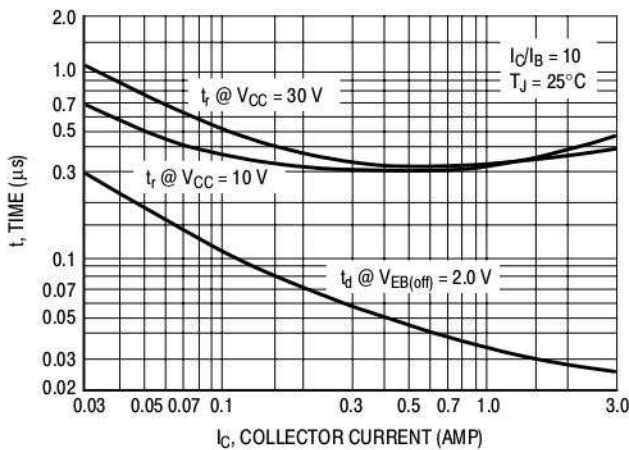
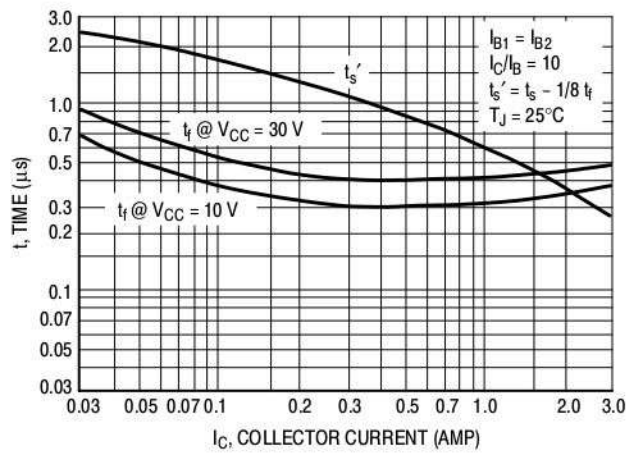
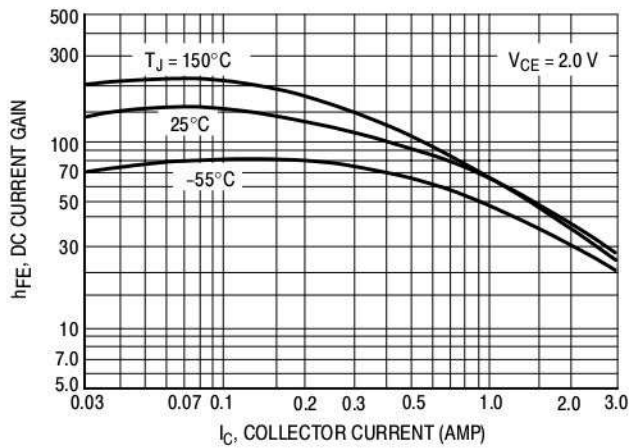
1.0 Amp Complementary Silicon Power Transistors

TO-220



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.560	.625	14.22	15.88	
B	.380	.420	9.65	10.67	
C	.140	.190	3.56	4.82	
D	.020	.045	0.51	1.14	
F	.139	.161	3.53	4.09	
G	.190	.110	2.29	2.79	
H	---	.250	---	6.35	
J	.012	.025	0.30	0.64	
K	.500	.580	12.70	14.73	
L	.045	.060	1.14	1.52	
N	.190	.210	4.83	5.33	
Q	.100	.135	2.54	3.43	
R	.080	.115	2.04	2.92	
S	.045	.055	1.14	1.39	
T	.230	.270	5.84	6.86	
U	---	.050	---	1.27	
V	.045	---	1.15	---	

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



Ordering Information :

Device	Packing
Part Number-BP	Bulk; 1 Kpcs/ Box

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