



TIP30 TIP30A TIP30B TIP30C

COMPLEMENTARY SILICON EPITAXIAL-BASE POWER TRANSISTORS

**MICRO ELECTRONICS**

CASE T0-220B

THE TIP29 SERIES (NPN) AND TIP 30 SERIES (PNP)  
ARE COMPLEMENTARY SILICON EPITAXIAL BASE POWER  
TRANSISTORS DESIGNED FOR POWER AMPLIFIERS AND  
SWITCHING APPLICATIONS.



BCE

**ABSOLUTE MAXIMUM RATINGS**

For p-n-p devices, voltage and current values are negative.

Collector-Base Voltage  
Collector-Emitter Voltage  
Emitter-Base Voltage  
Collector Current  
Collector Peak Current  
Base Current  
Total Power Dissipation @  $T_G \leq 25^\circ\text{C}$   
@  $T_A \leq 25^\circ\text{C}$   
Operating Junction & Storage Temperature

VCBO  
VCEO  
VEBO  
IC  
ICM  
IB  
Ptot

TIP29 TIP30	TIP29A TIP30A	TIP29B TIP30B	TIP29C TIP30C
40V	60V	80V	100V
40V	60V	80V	100V
5V	5V	5V	5V
1A	1A	1A	1A
3A	3A	3A	3A
	0.4A		
	30W		
	2W		
	-65 to 150°C		

**THERMAL RESISTANCE**

Junction to Case  
Junction to Ambient

$\theta_{jc}$   
 $\theta_{ja}$

4.17°C/W max.  
62.5°C/W max.

**ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ )**

PARAMETER	SYMBOL	TIP29 TIP30	TIP29A TIP30A	TIP29B TIP30B	UNIT	TEST CONDITIONS
		MIN MAX	MIN MAX	MIN MAX		
Collector-Emitter Breakdown Voltage	LVCEO*	40	60	80	V	IC=30mA IB=0
Collector Cutoff Current	ICEO	0.3	0.3		mA	VCE=30V IB=0
				0.3	mA	VCE=60V IB=0
Collector Cutoff Current	ICES	0.2	0.2		mA	VCE=40V VBE=0
					mA	VCE=60V VBE=0
				0.2	mA	VCE=80V VBE=0
Emitter Cutoff Current	IEBO	1	1	1	mA	VEB=5V IC=0
Collector-Emitter Saturation Voltage	VCE(sat)*	0.7	0.7	0.7	V	IC=1A IB=125mA
Base-Emitter Voltage	VBE *	1.3	1.3	1.3	V	IC=1A VCE=4V
D.C. Current Gain	HFE	40	40	40		IC=0.2A VCE=4V
		15 75	15 75	15 75		IC=1A VCE=4V
Small Signal Current Gain	hfe	20	20	20		IC=0.2A VCE=10V f=1kHz
Current Gain-Bandwidth Product	fT	3	3	3	MHz	IC=0.2A VCE=10V f=1MHz

\* Pulse Test : Pulse Width=0.3mS, Duty Cycle=1%

TIP30C same as TIP30B, except LVCEO.

**MICRO ELECTRONICS LTD.**

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