



TIP30 TIP30A TIP30B TIP30C

COMPLEMENTARY SILICON EPITAXIAL-BASE POWER TRANSISTORS

MICRO ELECTRONICS

CASE TO-220B

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



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

		TIP29 TIP30	TIP29A TIP30A	TIP29B TIP30B	TIP29C TIP30C
Collector-Base Voltage	VCBO	40V	60V	80V	100V
Collector-Emitter Voltage	VCEO	40V	60V	80V	100V
Emitter-Base Voltage	VEBO	5V	5V	5V	5V
Collector Current	IC	1A	1A	1A	1A
Collector Peak Current	ICM	3A	3A	3A	3A
Base Current	IB		0.4A		
Total Power Dissipation @ $T_C \leq 25^\circ\text{C}$ @ $T_A \leq 25^\circ\text{C}$	Ptot		30W 2W		
Operating Junction & Storage Temperature	Tj, Tstg	-65 to 150°C			

THERMAL RESISTANCE

Junction to Case	θ_{jc}	4.17°C/W	max.
Junction to Ambient	θ_{ja}	62.5°C/W	max.

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

PARAMETER	SYMBOL	TIP29	TIP29A	TIP29B	UNIT	TEST CONDITIONS
		TIP30	TIP30A	TIP30B		
		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			mA	VCE=40V VBE=0
			0.2	mA	VCE=60V VBE=0	
			0.2	mA	VCE=80V VBE=0	
Emitter Cutoff Current	IEBO	1	1	1	mA	VBE=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.

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