



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.



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

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 @ $T_G \leq 25^\circ\text{C}$	Ptot		30W		
@ $T_A \leq 25^\circ\text{C}$			2W		
Operating Junction & Storage Temperature	Tj, Tstg	-65 to 150°C			

TIP29	TIP29A	TIP29B	TIP29C
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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	MIN	MAX	TIP30A	MIN	MAX		
Collector-Emitter Breakdown Voltage	LVCEO*	40		60		80		V	IC=30mA IB=0
Collector Cutoff Current	ICEO	0.3		0.3		0.3		mA	VCE=30V IB=0
								mA	VCE=60V IB=0
Collector Cutoff Current	ICES	0.2		0.2		0.2		mA	VCE=40V VBE=0
								mA	VCE=60V VBE=0
								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.

38 HUNG TO ROAD, KWUN TONG, HONG KONG. TELEX 43510
KWUN TONG P. O. BOX 69477 CABLE ADDRESS "MICROTRON"
TELEPHONE: 3-430181-6, 3-899369, 3-892423, 3-898224

FAX: 3-410321

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