TIP30 TIP30A TIP30B TIP30C

COMPLEMENTARY SILICON EPITAXIAL-BASE POWER TRANSISTORS

MICRO ELECTRONICS

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

CASE TO-220B

BCE

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	V_{CBO}	40V	60V	80V	100V
Collector-Emitter Voltage	V_{CEO}	40V	60V	80V	100V
Emitter-Base Voltage	V_{EBO}	5V	5V	5V	5V
Collector Current	I_C	1A	1A	1A	1A
Collector Peak Current	I_{CM}	3A	3A	3A	3A
Base Current	I_B		0.4A		
Total Power Dissipation @ $T_C \leq 25°C$	P_{tot}		30W		
@ $T_A \leq 25°C$			2W		
Operating Junction & Storage Temperature	T_j, T_{stg}		-65 to 150°C		

THERMAL RESISTANCE

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

ELECTRICAL CHARACTERISTICS (T_A=25°C)

PARAMETER	SYMBOL	TIP29 TIP30 MIN	MAX	TIP29A TIP30A MIN	MAX	TIP29B TIP30B MIN	MAX	UNIT	TEST CONDITIONS
Collector-Emitter Breakdown Voltage	LV_{CEO}*	40		60		80		V	I_C=30mA I_B=0
Collector Cutoff Current	I_{CEO}		0.3		0.3			mA	V_{CE}=30V I_B=0
							0.3	mA	V_{CE}=60V I_B=0
Collector Cutoff Current	I_{CES}		0.2					mA	V_{CE}=40V V_{BE}=0
					0.2			mA	V_{CE}=60V V_{BE}=0
							0.2	mA	V_{CE}=80V V_{BE}=0
Emitter Cutoff Current	I_{EBO}		1		1		1	mA	V_{EB}=5V I_C=0
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$*		0.7		0.7		0.7	V	I_C=1A I_B=125mA
Base-Emitter Voltage	V_{BE} *		1.3		1.3		1.3	V	I_C=1A V_{CE}=4V
D.C. Current Gain	H_{FE}	40		40		40			I_C=0.2A V_{CE}=4V
		15	75	15	75	15	75		I_C=1A V_{CE}=4V
Small Signal Current Gain	hfe	20		20		20			I_C=0.2A V_{CE}=10V f=1kHz
Current Gain-Bandwidth Product	f_T	3		3		3		MHz	I_C=0.2A V_{CE}=10V f=1MHz

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

TIP30C same as TIP30B, except LVCEO.

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