

T-33-19



Silicon PNP Power Transistors

TO-220 Package

Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	TIP30	TIP30A	TIP30B	TIP30C	Unit
Collector-Base Voltage	-V _{CB0}	40	60	80	100	V
Collector-Emitter Voltage	-V _{CE0}	40	60	80	100	V
Emitter-Base Voltage	-V _{EB0}	5				V
Collector Current	-I _C	1				A
Peak Collector Current	-I _{CM}	3				A
Base Current	-I _B	0.4				A
Power Dissipation (Tc=25°C)	P _C	30				W
Junction Temperature	T _J	-65~+150				°C
Storage Temperature	T _{stg}	-65~+150				°C

Applications:

- Power Amplifier and High Speed Switching
- Complementary pair with TIP29, TIP29A, TIP29B, TIP29C

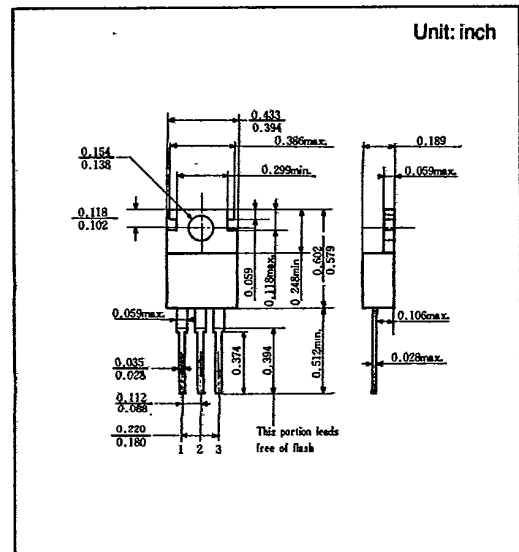
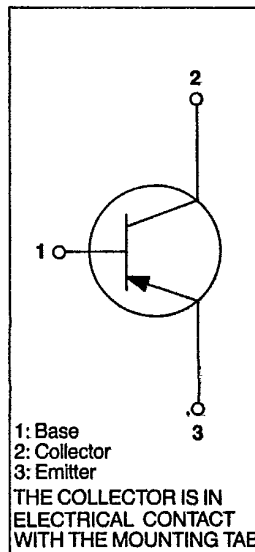
Features:

- 30W at 25°C case temperature
- 1A rated collector current
- Min. fr of 3MHz at 10V, 200mA

Electrical Characteristics (Ta=25°C)

Item	Symbol	Condition	TIP30		TIP30A		TIP30B		TIP30C		Unit
			min.	max.	min.	max.	min.	max.	min.	max.	
Collector-Emitter Voltage	-V _{CE0}	-I _C =30mA, I _B =0	40		60		80		100		V
Collector Cutoff Current	-I _{CEO}	-V _{CE} =30V, I _B =0	0.3		0.3						mA
		-V _{CE} =60V, I _B =0			0.3		0.3				
Collector Cutoff Current	-I _{CES}	-V _{CE} =40V, V _{BE} =0	0.2								mA
		-V _{CE} =60V, V _{BE} =0			0.2						
		-V _{CE} =80V, V _{BE} =0					0.2				
		-V _{CE} =100V, V _{BE} =0							0.2		
Emitter-Base Current	-I _{EB0}	-V _{EB} =5V, I _C =0	1		1		1		1		mA
DC Current Gain	h _{FE}	-V _{CE} =4V, -I _C =0.2A	40		40		40		40		
		-V _{CE} =4V, -I _C =1A	15	75	15	75	15	75	15	75	
Base-Emitter Voltage	-V _{BE}	-V _{CE} =4V, -I _C =1A	1.3		1.3		1.3		1.3		V
Collector-Emitter Saturation Voltage	-V _{CE(sat)}	-I _C =1A, -I _B =125mA	0.7		0.7		0.7		0.7		V
Small-Signal Current Gain	h _{fe}	-V _{CE} =10V, -I _C =0.2A, f=1kHz	20		20		20		20		
		-V _{CE} =10V, -I _C =0.2A, f=1MHz	3		3		3		3		
Turn-on Time	t _{on}	-I _C =1A, -I _{B1} =100mA, I _{B2} =100mA	0.2 (typ.)							μs	
Turn-off Time	t _{off}	V _{BE(off)} =4.3V, R _L =3Ω	1.2 (typ.)							μs	

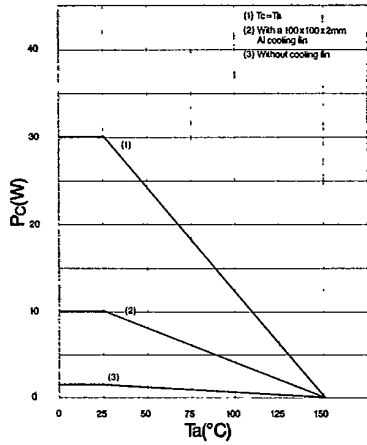
The device specifications are subject to change without prior notice.



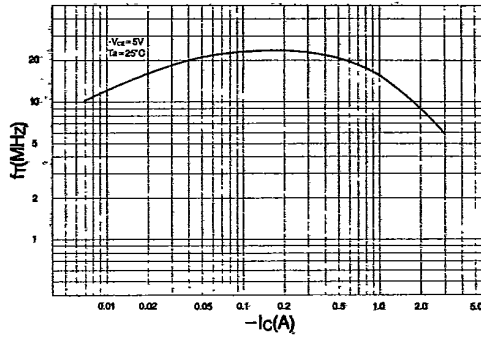


Typical Characteristics

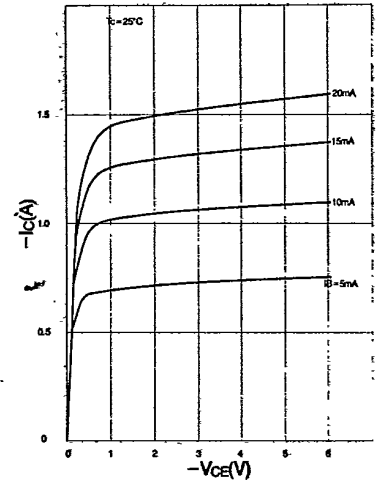
Pc vs. Ta characteristics



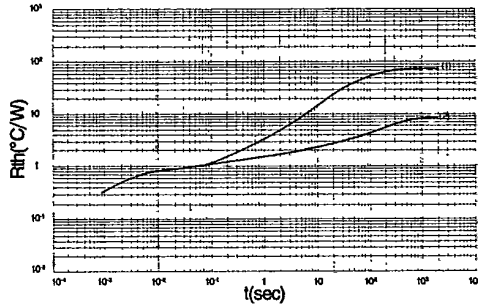
f_T vs. I_C characteristics



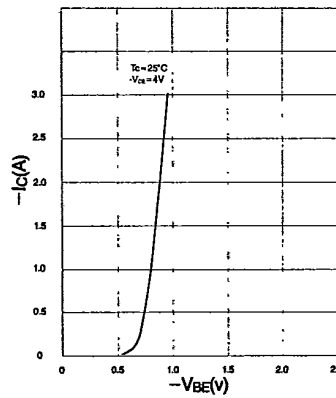
V_{CE} vs. I_C characteristics



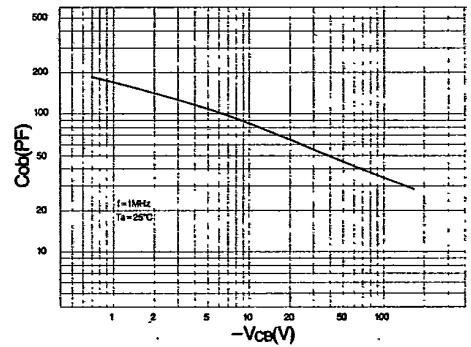
Thermal Resistance vs. t



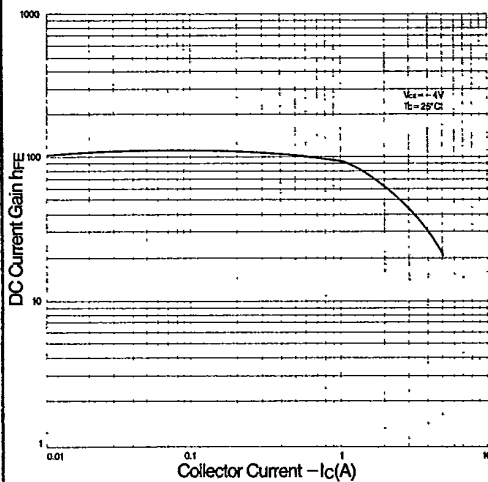
V_{BE} vs. I_C characteristics



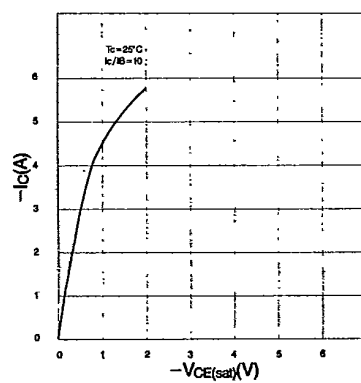
C_{ob} vs. V_{CB} characteristics



h_{FE} vs I_C characteristics



V_{CE(sat)} vs. I_C characteristics



Area of Safe Operation (ASO) (T_c=25°C)

