

TIS93



PNP General Purpose Amplifier

This device is designed for use as general purpose amplifiers and switches requiring collector currents to 500 mA. Sourced from Process 63. See PN2907A for characteristics.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	40	V
V _{CBO}	Collector-Base Voltage	40	V
V _{EBO}	Emitter-Base Voltage	5.0	V
Ic	Collector Current - Continuous	800	mA
T _J , T _{stg}	Operating and Storage Junction Temperature Range	-55 to +150	°C

^{*}These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

1) These ratings are based on a maximum junction temperature of 150 degrees C.

2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max	Units
		TIS93	
P_D	Total Device Dissipation Derate above 25°C	625 5.0	mW mW/∘C
R _{θJC}	Thermal Resistance, Junction to Case	83.3	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	°C/W

PNP General Purpose Amplifier (continued)

Electrical Characteristics TA = 25°C unless otherwise noted							
Symbol	Parameter	Test Conditions	Min	Max	Units		
OFF CHA	RACTERISTICS						
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage*	$I_C = 10 \text{ mA}, I_B = 0$	40		V		
V _{(BR)CBO}	Collector-Base Breakdown Voltage	$I_C = 100 \mu A, I_E = 0$	40		V		
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 100 \mu A, I_C = 0$	5.0		V		
I _{CBO}	Collector Cutoff Current	$V_{CB} = 20 \text{ V}, I_{E} = 0$		100	nA		
I _{EBO}	Emitter Cutoff Current	$V_{EB} = 3.0 \text{ V}, I_{C} = 0$		100	nA		
ON CHAR	RACTERISTICS*						
h _{FE}	DC Current Gain	$V_{CE} = 2.0 \text{ V}, I_{C} = 50 \text{ mA}$	100	300			
V _{CE(sat)}	Collector-Emitter Saturation Voltage	$I_C = 50 \text{ mA}, I_B = 5.0 \text{ mA}$		0.25	V		
V _{BE(on)}	Base-Emitter On Voltage	$V_{CE} = 2.0 \text{ V}, I_{C} = 50 \text{ mA}$	0.6	1.0	V		

^{*}Pulse Test: Pulse Width \leq 300 μ s, Duty Cycle \leq 2.0%