

TO-220 Plastic-Encapsulate Transistors

TIP32/32A/32B/32C TRANSISTOR (PNP)

FEATURES

Power dissipation

$P_{CM} : 2 \text{ W (Tamb=25}^{\circ}\text{C)}$

Collector current

$I_{CM} : -3 \text{ A}$

Collector-base voltage

$V_{(BR)CBO} : \text{ TIP31 : -40 V}$

 TIP31A : -60 V

 TIP31B : -80 V

 TIP31C : -100 V

Operating and storage junction temperature range

$T_J, T_{stg} : -55^{\circ}\text{C to } +150^{\circ}\text{C}$

TO-220

1.BASE

2.COLLECTOR

3.EMITTER



ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	32	$I_C = -100 \mu\text{A}, I_E = 0$	-40		V
	32A		-60		
	32B		-80		
	32C		-100		
Collector-emitter breakdown voltage	32	$I_C = -30 \text{ mA}, I_E = 0$	-40		V
	32A		-60		
	32B		-80		
	32C		-100		
Emitter-base breakdown voltage	$V_{(BR)EB0}$	$I_E = -100 \mu\text{A}, I_C = 0$	-5		V
Collector cut-off current	32	$V_{CE} = -40 \text{ V}, I_E = 0$		-0.2	mA
	32A	$V_{CE} = -60 \text{ V}, I_E = 0$			
	32B	$V_{CE} = -80 \text{ V}, I_E = 0$			
	32C	$V_{CE} = -100 \text{ V}, I_E = 0$			
Collector cut-off current	32/32A 32B/32C	$V_{CE} = -30 \text{ V}, I_E = 0$ $V_{CE} = -60 \text{ V}, I_E = 0$		-0.3 -0.3	mA
Emitter cut-off current	I_{EB0}	$V_{EB} = -5 \text{ V}, I_C = 0$		-1	mA
DC current gain	$h_{FE(1)}$	$V_{CE} = -4 \text{ V}, I_C = -3 \text{ A}$	10	50	
	$h_{FE(2)}$	$V_{CE} = -4 \text{ V}, I_C = -1 \text{ A}$	25		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -3 \text{ A}, I_E = -375 \text{ mA}$		-1.2	V
Base-emitter voltage	$V_{BE(on)}$	$V_{CE} = -4 \text{ V}, I_C = -3 \text{ A}$		-1.8	V
Transition frequency	f_T	$V_{CE} = -10 \text{ V}, I_C = -500 \text{ mA}$	3		MHz