



SILICON PLASTIC POWER TRANSISTOR
PNP BD242A/B/C
3A 40W

Technical Data

...designed for use in general-purpose switching and amplifier applications.

- ☞ Collector-Emitter Saturation Voltage-
 $V_{CE} = 1.2V_{dc}(Max) @ I_C = 3A_{dc}$
- ☞ Collector-Emitter Sustaining Voltage-
 $V_{CEO}(sus) = 100V_{dc}(Min)$
- ☞ TO-220 Package

MAXIMUM RATINGS

Rating	Symbol	BD242A	BD242B	BD242C	Unit
Collector- Emitter Voltage	V_{CEO}	60	80	100	Vdc
Collector – Emitter Voltage	V_{CES}	70	90	115	Vdc
Emitter Base Voltage	V_{EB}	5			Vdc
Collector Current – Continuos Peak	I_C	3 5			A _{dc}
Base Current	I_B	1			A _{dc}
Total Power Dissipation @ TC = 25°C Derate above 25°C	PD	40 0.32			Watts W/°C
Operating and Storage junction Temperature Range	T_j, T_{stg}	-65 to +150			°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max.	Unit
Thermal resistance junction to case	R_{thjc}	3.125	°C/W



ELECTRICAL CHARACTERISTICS : [$T_c = 25^\circ\text{C}$ unless otherwise noted]

Characteristic	Symbol	Min	Typ	Max	Unit
* OFF CHARACTERISTICS :					
Collector–Emitter Sustaining Voltage(1) [$I_c = 30\text{ mAdc}$, $I_B = 0$] BD242A BD242B BD242C	$V_{CEO(sus)}$	60 80 100			Vdc
Collector Cutoff Current [$V_{CE} = 30\text{ Vdc}$, $I_B = 0$] BD242A [$V_{CE}=60\text{Vdc}, I_B=0$] BD242B,BD242C	I_{CE0}			0.3 0.3	mAdc
Collector Cutoff Current [$V_{CE}=60\text{Vdc}$, $V_{BE}=0$] BD242A [$V_{CE}=80\text{Vdc}$, $V_{BE}=0$] BD242B [$V_{CE}=100\text{Vdc}$, $V_{BE}=0$] BD242C	I_{CES}			200 200 200	⊗Adc
Emitter Cutoff Current [$V_{EB} = 5.0\text{ Vdc}$, $I_c = 0$]	I_{EBO}			1	mAdc
* ON CHARACTERISTICS (1):					
DC Current Gain [$I_c = 1.0\text{Adc}$, $V_{CE} = 4.0\text{ Vdc}$] [$I_c = 3\text{Adc}$, $V_{CE} = 4.0\text{ Vdc}$]	h_{FE}	25 10			
Collector-Emitter Saturation Voltage [$I_c = 3\text{Adc}$, $I_B = 600\text{mAdc}$]	$V_{CE(sat)}$			1.2	Vdc
Base-Emitter on Voltage [$I_c = 3\text{ Adc}$, $V_{CE} = 4\text{V}$]	$V_{BE(on)}$			1.8	Vdc
DYNAMIC CHARACTERISTICS :					
Current Gain – Bandwidth Product [$I_c=0.5\text{Adc}$, $V_{CE}=10\text{Vdc}$, $f_{test}=1.0\text{ MHz}$]	f_T	3			MHz
Small-Signal Current Gain [$I_c=0.5\text{ Adc}$, $V_{CE}=10\text{ Vdc}$, $f=1\text{kHz}$]	h_{fe}	20			

Σ (1) Pulse Test : Pulse Width <300μs , Duty Cycle < 2.0%