

PNP Silicon Darlington Transistors

BD 862

BD 864

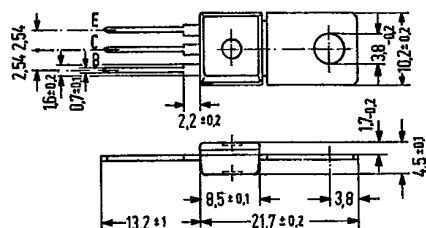
BD 866

SIEMENS AKTIENGESELLSCHAFT 04417 D

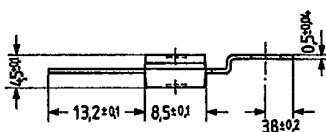
Epibase power darlington transistors (15 W)

BD 862, BD 864, and BD 866 are monolithic silicon PNP epibase power darlington transistors with diode and resistors in a plastic package similar to TO 202. The collectors of the two transistors are electrically connected to the metallic mounting area. These darlington transistors for AF applications are outstanding for a particularly high current gain. Together with BD 861, BD 863, and BD 865, they are especially useful as complementary AF push-pull output stages for color TV correction stages.

Type	Ordering code
BD 862	Q62702-D957
BD 864	Q62702-D959
BD 866	Q62702-D961



Approx. weight 15 g. Dimensions in mm



Available upon request also with bent fixing plate.

Maximum ratings

Maximum ratings		BD 862	BD 864	BD 866	
Collector-emitter voltage	$-V_{CEO}$	45	60	80	V
Collector-base voltage	$-V_{CBO}$	45	60	80	V
Base-emitter voltage	$-V_{EBO}$	5	5	5	V
Collector current	$-I_C$	4	4	4	A
Collector peak current ($t \leq 1$ ms)	$-I_{CM}$	7	7	7	A
Base current	$-I_B$	0.1	0.1	0.1	A
Storage temperature range	T_{stg}	-55 to +150			°C
Junction temperature	T_j	150	150	150	°C
Total power dissipation ($T_{case} \leq 25$ °C)	P_{tot}	15	15	15	W

Thermal resistance

Junction to ambient air	R _{thJA}	62.5	62.5	62.5	K/W
Junction to case	R _{thJC}	8.3	8.3	8.3	K/W

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Static characteristics ($T_{amb} = 25^{\circ}\text{C}$)

		BD 862	BD 864	BD 866	
Collector cutoff current					
($V_{CB} = V_{CBmax}$)	$-I_{CBO}$	<0.2	<0.2	<0.2	mA
($V_{BC} = V_{CBmax}$, $T_{amb} = 100^{\circ}\text{C}$)	$-I_{CBO}$	<2	<2	<2	mA
Collector cutoff current					
($-V_{CE} = 0.5 V_{CEmax}$)	$-I_{CEO}$	<0.5	<0.5	<0.5	mA
Emitter cutoff current					
($-V_{EBO} = 5 \text{ V}$)	$-I_{EBO}$	<5	<5	<5	mA
Collector-emitter breakdown voltage ($-I_C = 100 \text{ mA}$)	$-V_{(BR)CEO}$	>45	>60	>80	V
Collector-base breakdown voltage ($-I_C = 1 \text{ mA}$)	$-V_{(BR)CBO}$	>45	>60	>80	V
Emitter-base breakdown voltage ($I_E = 5 \text{ mA}$)	$-V_{(BR)EBO}$	>5	>5	>5	V
DC current gain					
($-I_C = 50 \text{ mA}$; $-V_{CE} = 3 \text{ V}$)	h_{FE}	750	750	750	—
($-I_C = 1.5 \text{ A}$; $-V_{CE} = 3 \text{ V}$)	h_{FE}	>750	>750 (3000)	>750 (3000)	—
($-I_C = 4 \text{ A}$; $-V_{CE} = 3 \text{ V}$)	h_{FE}	1000	1000	1000	—
Base-emitter forward voltage					
($-I_C = 1.5 \text{ A}$; $-V_{CE} = 3 \text{ V}$)	$-V_{BE}$	<2.5	<2.5	<2.5	V
Collector-emitter saturation voltage					
($-I_C = 1.5 \text{ A}$; $-I_B = 30 \text{ mA}$)	$-V_{CEsat}$	<2.5	<2.5	<2.5	V
Forward voltage of the protective diode at $I_F = 3 \text{ A}$	V_F	1.8	1.8	1.8	V

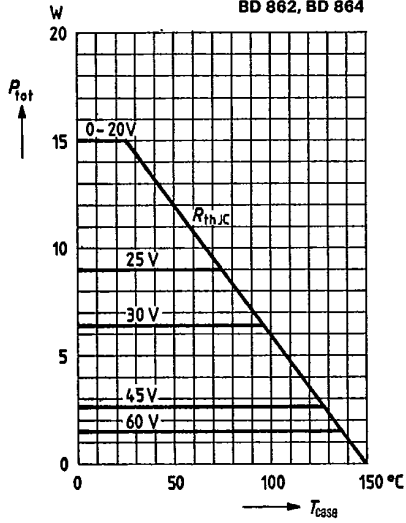
Dynamic characteristics ($T_{amb} = 25^{\circ}\text{C}$)

Transition frequency					
($-I_C = 1.5 \text{ A}$; $-V_{CE} = 3 \text{ V}$; $f = 1 \text{ MHz}$)	f_T	7 (>1)	7 (>1)	7 (>1)	MHz
Cutoff frequency in common emitter configuration					
($-I_C = 1.5 \text{ A}$; $-V_{CE} = 3 \text{ V}$)	f_{hfe}	60	60	60	kHz

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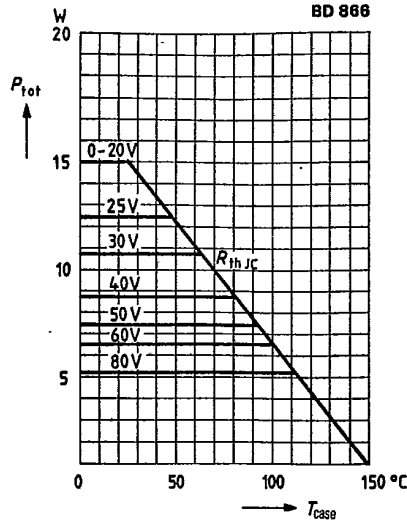
Total perm. power dissipation
versus temperature
 $P_{\text{tot}} = f(T_{\text{case}}); V_{\text{CE}} = \text{parameter}$

BD 862, BD 864



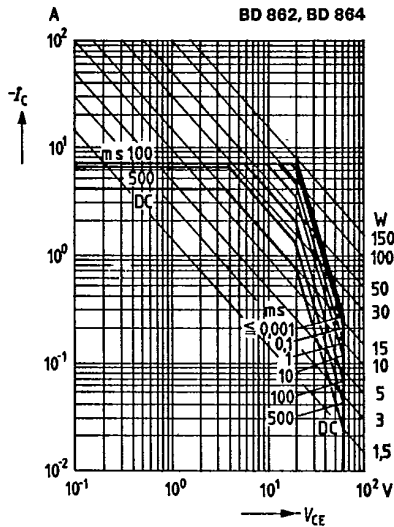
Total perm. power dissipation
versus temperature
 $P_{\text{tot}} = f(T_{\text{case}}); V_{\text{CE}} = \text{parameter}$

BD 866



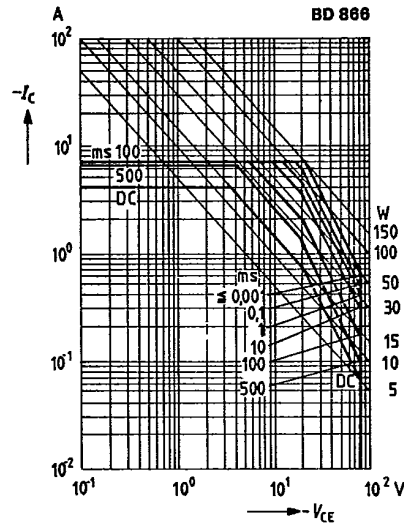
Permissible operating range
 $I_{\text{C}} = f(V_{\text{CE}}); T_{\text{case}} \leq 25^{\circ}\text{C}; D = 0.01$

BD 862, BD 864



Permissible operating range
 $I_{\text{C}} = f(V_{\text{CE}}); T_{\text{case}} \leq 25^{\circ}\text{C}; D = 0.01$

BD 866



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25C 04420 D

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