

## PNP Silicon Darlington Transistors

BD 862

BD 864

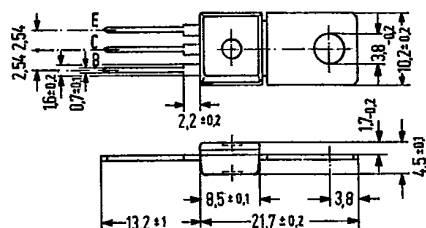
BD 866

SIEMENS AKTIENGESELLSCHAFT 04417 D

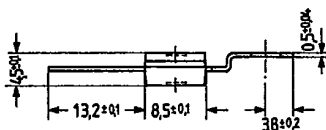
## Epibase power darlington transistors (15 W)

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 <sub>thJA</sub>	62.5	62.5	62.5	K/W
Junction to case	R <sub>thJC</sub>	8.3	8.3	8.3	K/W



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

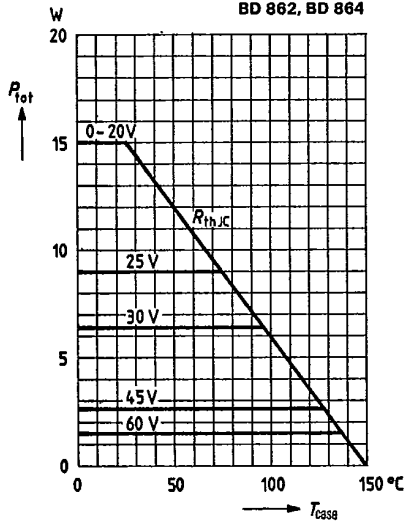
Transition frequency					
( $-I_C = 1.5 \text{ A}$ ; $-V_{CE} = 3 \text{ V}$ ; $f = 1 \text{ MHz}$ )	$f_T$	7 (>1)	7 (>1)	7 (>1)	MHz
Cutoff frequency in common emitter configuration					
( $-I_C = 1.5 \text{ A}$ ; $-V_{CE} = 3 \text{ V}$ )	$f_{hfe}$	60	60	60	kHz



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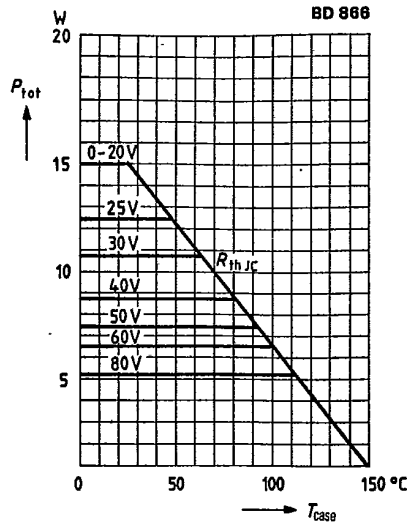
Total perm. power dissipation  
versus temperature  
 $P_{\text{tot}} = f(T_{\text{case}}); V_{\text{CE}} = \text{parameter}$

BD 862, BD 864



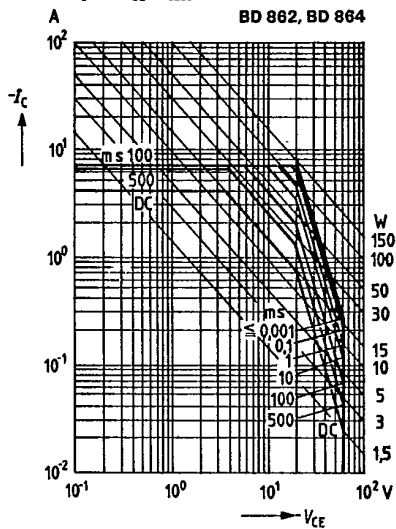
Total perm. power dissipation  
versus temperature  
 $P_{\text{tot}} = f(T_{\text{case}}); V_{\text{CE}} = \text{parameter}$

BD 866



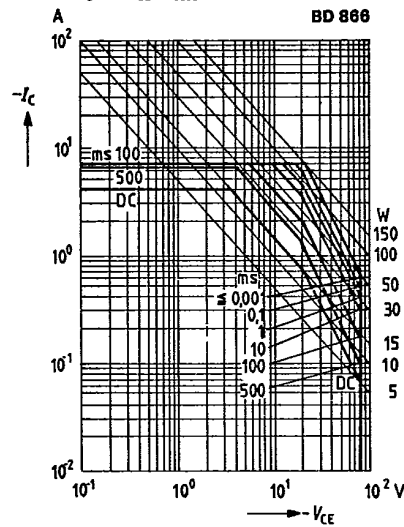
Permissible operating range  
 $I_{\text{C}} = f(V_{\text{CE}}); T_{\text{case}} \leq 25^\circ\text{C}; D = 0.01$

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

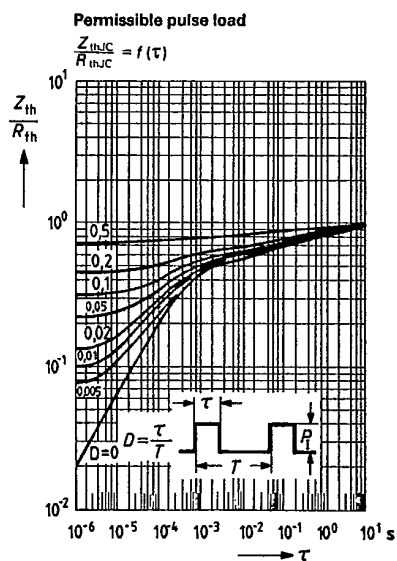




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25C 04420 D

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BD 862  
BD 864  
BD 866



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