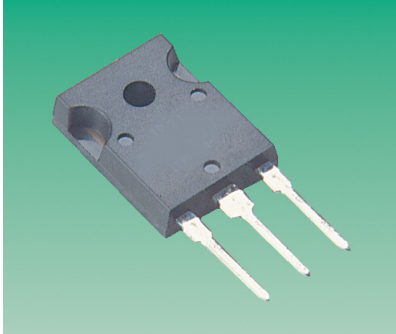


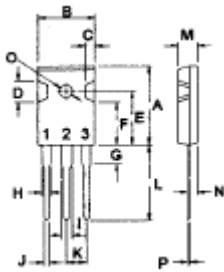
BDV66, 67

Darlington Transistors



Features:

- Collector-Emitter sustaining voltage -
 $V_{CEO(sus)} = 80V$ (Minimum) - BDV66A, BDV67A
 $= 100V$ (Minimum) - BDV66B, BDV67B
- Collector-Emitter saturation voltage
 $V_{CE(sat)} = 2.0V$ (Maximum) at $I_C = 10A$
- Monolithic construction with Built-in Base-Emitter Shunt Resistor.



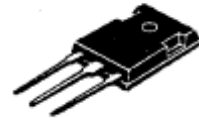
- Pin 1. Base
 2. Collector
 3. Emitter

Dimensions	Minimum	Maximum
A	20.63	22.38
B	15.38	16.20
C	1.90	2.70
D	5.10	6.10
E	14.81	15.22
F	11.72	12.84
G	4.20	4.50
H	1.82	2.46
I	2.92	3.23
J	0.89	1.53
K	5.26	5.66
L	18.50	21.50
M	4.68	5.36
N	2.40	2.80
O	3.25	3.65
P	0.55	0.70

Dimensions : Millimetres

PNP NPN
BDV66A **BDV67A**
BDV66B **BDV67B**

16 Ampere
 Darlington
 Complementary Silicon
 Power Transistors
 60 - 100 Volts
 125 Watts



TO-247(3P)

Maximum Ratings

Characteristic	Symbol	BDV66A BDV67A	BDV66B BDV67B	Unit
Collector-Emitter Voltage	V_{CEO}	80	100	V
Collector-Base Voltage	V_{CBO}			
Emitter-Base Voltage	V_{EBO}	5.0		
Collector Current-Continuous -Peak	I_C I_{CM}	16 20		A
Base Current	I_B	0.25		
Total Power Dissipation at $T_C = 25^\circ C$ Derate above $25^\circ C$	P_D	125 1.0		W W/ $^\circ C$
Operation and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +150		$^\circ C$



BDV66, 67

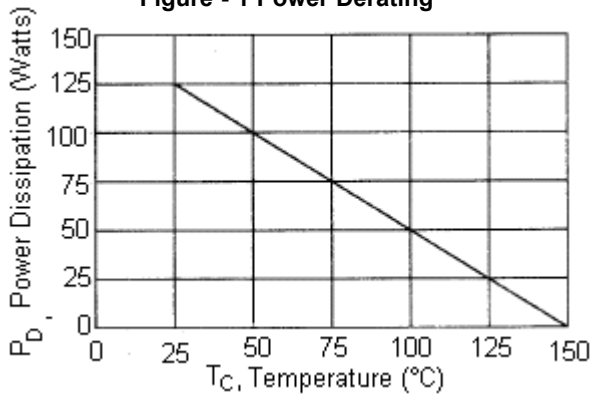
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Thermal Characteristics

Characteristic	Symbol	Maximum	Unit
Thermal Resistance Junction to Case	$R_{\theta jc}$	1.0	$^{\circ}\text{C}/\text{W}$

Figure - 1 Power Derating



Electrical Characteristics ($T_c = 25^{\circ}\text{C}$ unless otherwise noted)

Characteristic	Symbol	Minimum	Maximum	Unit
OFF Characteristics				
Collector-Emitter Sustaining Voltage (1) ($I_C = 0.1\text{A}$, $L = 25\text{mH}$) BDV66A, BDV67A BDV66B, BDV67B	$V_{CEO(sus)}$	80 100	-	V
Collector Cut off Current ($V_{CE} = 40\text{V}$, $I_B = 0$) ($V_{CE} = 50\text{V}$, $I_B = 0$) BDV66A, BDV67A BDV66B, BDV67B	I_{CEO}	-	3.0	mA
Collector Cut off Current ($V_{CB} = 80\text{V}$, $I_E = 0$) ($V_{CB} = 100\text{V}$, $I_E = 0$) BDV66A, BDV67A BDV66B, BDV67B	I_{CBO}	-	0.4	
Emitter Cut off Current ($V_{EB} = 5.0\text{V}$, $I_C = 0$)	I_{EBO}	-	5.0	
ON Characteristics (1)				
Collector-Emitter Saturation Voltage ($I_C = 10\text{A}$, $I_B = 40\text{mA}$)	$V_{CE(sat)}$	-	2.0	V
Dynamic Characteristics				
Small-Signal Current Gain (2) ($I_C = 5.0\text{A}$, $V_{CE} = 3.0\text{V}$, $f = 1.0\text{KHz}$)	f_T	6.0	-	MHz
Output Capacitance ($V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1.0\text{MHz}$)	C_{ob}	-	450	pF



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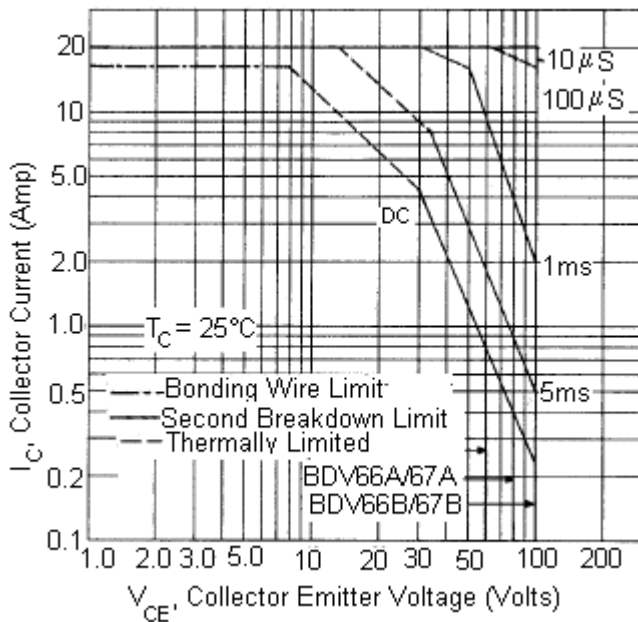


Characteristic	Symbol	Minimum	Maximum	Unit
Switching Characteristics				
Turn On Time	$I_C = 5.0A, V_{CC} = 12V$ $I_{B1} = -I_{B2} = 40mA$	t_{on}	1.0 (typical)	-
Off Time		t_{off}	3.5 (typical)	-
				μs

(1) Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$

$$(2) f_T = |h_{FE}| \cdot f_{test}$$

Figure - 2 Active-Region Safe Operating Area



There are two limitations on the power handling ability of a transistor: average junction temperature and second breakdown safe operating area curves indicate I_C - V_{CE} limits of the transistor that must be observed for reliable operation i.e., the transistor must not be subjected to greater dissipation than the curves indicate. The data of Figure-2 is based on $T_{J(PK)} = 150^\circ C$; T_C is variable depending on conditions. Second breakdown pulse limits are valid for duty cycles to 10% provided $T_{J(PK)} < 150^\circ C$. At high case temperatures, thermal limitation will reduce the power that can be handled to values less than the limitations imposed by second breakdown.

Specifications

TYPE	Part Number
NPN	BDV67A
	BDV67B
PNP	BDV66A
	BDV66B



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