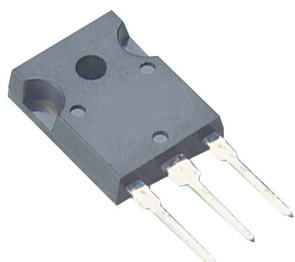


Darlington Transistor



TO-247(3P)

Features:

- Collector-Emitter sustaining voltage -
 $V_{CE(sus)} = 80V$ (Min.) - BDV66A, BDV67A
 $= 100V$ (Min.) - BDV66B, BDV67B
- Collector-Emitter saturation voltage
 $V_{CE(sat)} = 2V$ (Max.) at $I_C = 10A$
- Monolithic construction with Built-in Base-Emitter Shunt Resistor

PNP NPN
 BDV66A BDV67A
 BDV66B BDV67B

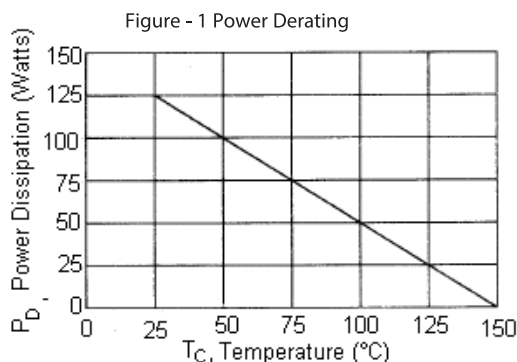
16 Ampere
 Darlington
 Complementary Silicon
 Power Transistors
 60 - 100 Volts
 125 Watts

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		
Collector Current - Continuous - Peak	I _C I _{CM}	16 20		A
Base Current	I _B	0.25		
Total Power Dissipation at T _c = 25°C Derate above 25°C	P _D	125 1		W W/°C
Operation and Storage Junction Temperature Range	T _J , T _{STG}	-65 to +150		°C

Thermal Characteristics

Characteristic	Symbol	Max.	Unit
Thermal Resistance Junction to Case	$R_{\theta jc}$	1	$^\circ C/W$



Darlington Transistor



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

Characteristic	Symbol	Min.	Max.	Unit
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OFF Characteristics

Collector-Emitter Sustaining Voltage (1) ($I_c = 0.1\text{A}$, $L = 25\text{mH}$) BDV66A, BDV67A BDV66B, BDV67B	$V_{CE(sus)}$	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	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 ($V_{EB} = 5\text{V}$, $I_C = 0$)	I_{EBO}	-	5	

ON Characteristics (1)

Collector-Emitter Saturation Voltage ($I_c = 10\text{A}$, $I_B = 40\text{mA}$)	$V_{CE(sat)}$	-	2	V
--	---------------	---	---	---

Dynamic Characteristics

Small-Signal Current Gain (2) ($I_c = 5\text{A}$, $V_{CE} = 3\text{V}$, $f = 1\text{KHz}$)	f_T	6	-	MHz
Output Capacitance ($V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$)	C_{ob}	-	450	pF

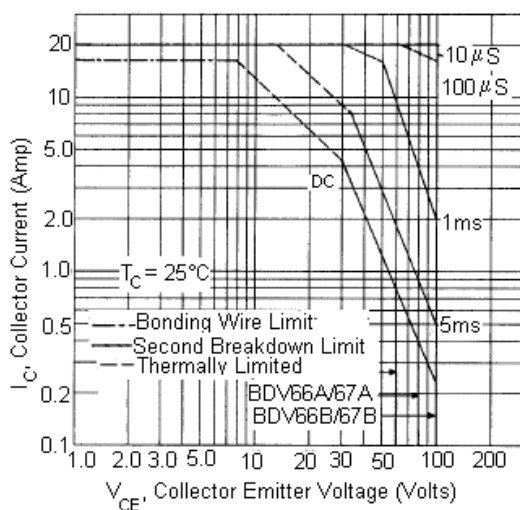
Switching Characteristics

Turn On Time	$I_c = 5\text{A}$, $V_{CC} = 12\text{V}$	t_{on}	1 (typical)	-	μs
Off Time	$I_{B1} = -I_{B2} = 40\text{mA}$	t_{off}	3.5 (typical)	-	

(1) Pulse Test: Pulse Width = $300\mu\text{s}$, Duty Cycle $\leq 2\%$

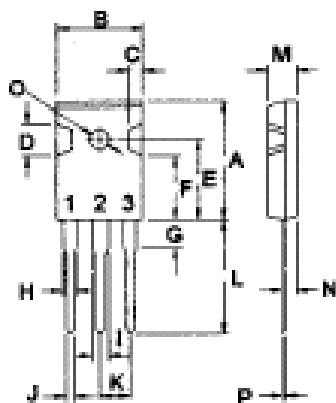
(2) $f_T = |h_{FE}| \cdot f_{test}$

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 $T_{J(pk)} = 150^\circ\text{C}$; T_c is variable depending on conditions. Second breakdown pulse limits are valid for duty cycles to 10% provided $T_{J(pk)} < 150^\circ\text{C}$. At high case temperatures, thermal limitation will reduce the power that can be handled to values less than the limitations imposed by second breakdown.

Darlington Transistor



Dimensions	Minimum	Maximum
A	20.63	22.38
B	15.38	16.2
C	1.9	2.7
D	5.1	6.1
E	14.81	15.22
F	11.72	12.84
G	4.2	4.5
H	1.82	2.46
I	2.92	3.23
J	0.89	1.53
K	5.26	5.66
L	18.5	21.5
M	4.68	5.36
N	2.4	2.8
O	3.25	3.65
P	0.55	0.7

Dimensions : Millimetres

Part Number Table

Description	Type	Part Number
Darlington Transistor	NPN	BDV67A
		BDV67B
	PNP	BDV66A
		BDV66B

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