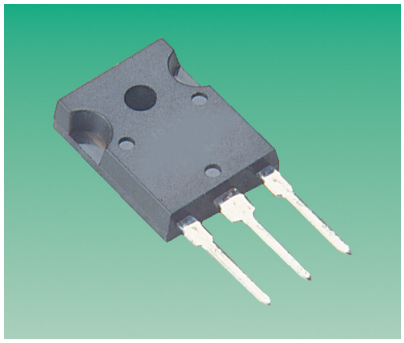
BDV66, 67

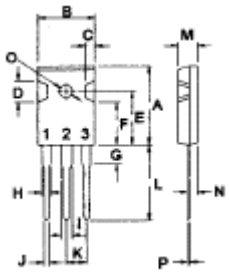
Darlington Transistors

multicomp



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.



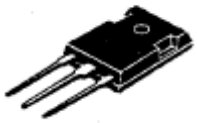
Pin 1. Base
2. Collector
3. Emitter

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)

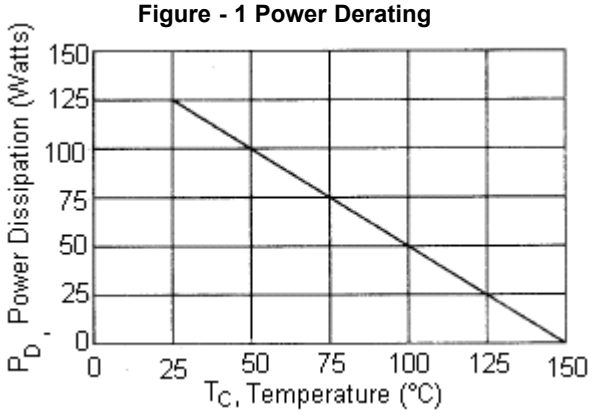
Maximum Ratings

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°C Derate above 25°C	P_D	125 1.0		W W/°C
Operation and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +150		°C

Thermal Characteristics

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

Figure - 1 Power Derating



Electrical Characteristics (T_C = 25°C unless otherwise noted)

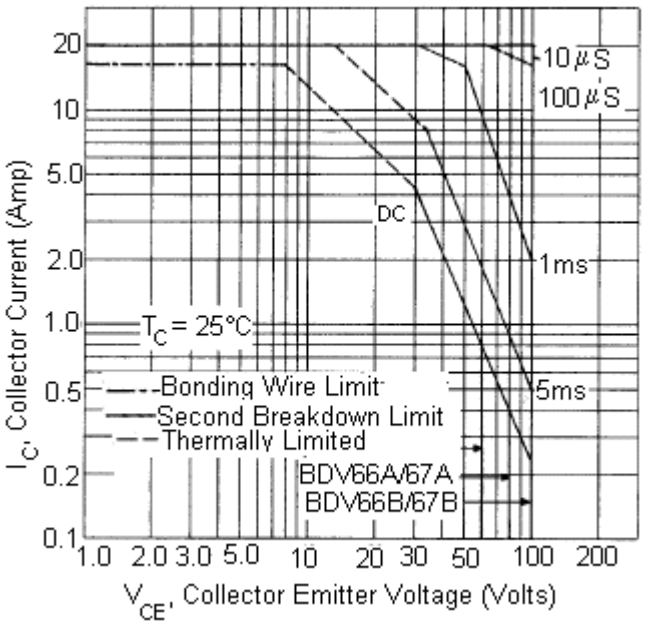
Characteristic		Symbol	Minimum	Maximum	Unit
OFF Characteristics					
Collector-Emitter Sustaining Voltage (1) (I_C = 0.1A, L = 25mH)	BDV66A, BDV67A BDV66B, BDV67B	$V_{CEO(sus)}$	80 100	-	V
Collector Cut off Current (V_{CE} = 40V, I_B = 0) (V_{CE} = 50V, I_B = 0)	BDV66A, BDV67A BDV66B, BDV67B	I_{CEO}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

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)	-	µs
Off Time		t_{off}	3.5 (typical)	-	

(1) Pulse Test: Pulse Width = 300µs, Duty Cycle ≤2.0%

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

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°C; T_C is variable depending on conditions. Second breakdown pulse limits are valid for duty cycles to 10% provided $T_{J(PK)}$ <150°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

BDV66, 67

Darlington Transistors

Notes:

International Sales Offices:

AUSTRALIA – Farnell InOne
Tel No: ++ 61 2 9645 8888
Fax No: ++ 61 2 9644 7898

FINLAND – Farnell InOne
Tel No: ++ 358 9 560 7780
Fax No: ++ 358 9 345 5411

NETHERLANDS – Farnell InOne
Tel No: ++ 31 30 241 7373
Fax No: ++ 31 30 241 7333

SWITZERLAND – Farnell InOne
Tel No: ++ 41 1 204 64 64
Fax No: ++ 41 1 204 64 54

AUSTRIA – Farnell InOne
Tel No: ++ 43 662 2180 680
Fax No: ++ 43 662 2180 670

FRANCE – Farnell InOne
Tel No: ++ 33 474 68 99 99
Fax No: ++ 33 474 68 99 90

NEW ZEALAND – Farnell InOne
Tel No: ++ 64 9 357 0646
Fax No: ++ 64 9 357 0656

UK – Farnell InOne
Tel No: ++ 44 8701 200 200
Fax No: ++ 44 8701 200 201

BELGIUM – Farnell InOne
Tel No: ++ 32 3 475 2810
Fax No: ++ 32 3 227 3648

GERMANY – Farnell InOne
Tel No: ++ 49 89 61 39 39 39
Fax No: ++ 49 89 613 59 01

NORWAY – Farnell InOne
Tel No: ++ 45 44 53 66 66
Fax No: ++ 45 44 53 66 02

UK – BuckHickman InOne
++ 44 8450 510 150
++ 44 8450 510 130

BRAZIL – Farnell-Newark InOne
Tel No: ++ 55 11 4066 9400
Fax No: ++ 55 11 4066 9410

HONG KONG – Farnell-Newark InOne
Tel No: ++ 852 2268 9888
Fax No: ++ 852 2268 9899

PORTUGAL – Farnell InOne
Tel No: ++ 34 93 475 8804
Fax No: ++ 34 93 474 5288

UK – CPC
++ 44 8701 202 530
++ 44 8701 202 531

CHINA – Farnell-Newark InOne
Tel No: ++86 10 6238 5152
Fax No: ++86 10 6238 5022

IRELAND – Farnell InOne
Tel No: ++ 353 1 830 9277
Fax No: ++ 353 1 830 9016

SINGAPORE – Farnell-Newark InOne
Tel No: ++ 65 6788 0200
Fax No: ++ 65 6788 0300

EXPORT – Farnell InOne
Tel No: ++ 44 8701 200 208
Fax No: ++ 44 8701 200 209
For enquiries from all other markets

DENMARK – Farnell InOne
Tel No: ++ 45 44 53 66 44
Fax No: ++ 45 44 53 66 06

ITALY – Farnell InOne
Tel No: ++ 39 02 93 995 200
Fax No: ++ 39 02 93 995 300

SPAIN – Farnell InOne
Tel No: ++ 34 93 475 8805
Fax No: ++ 34 93 474 5107

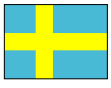
http://www.farnellinone.com

http://www.buckhickmaninone.com

http://www.cpc.co.uk

ESTONIA – Farnell InOne
Tel No: ++ 358 9 560 7780
Fax No: ++ 358 9 345 5411

MALAYSIA – Farnell-Newark InOne
Tel No: ++ 60 3 7873 8000
Fax No: ++ 60 3 7873 7000



SWEDEN – Farnell InOne
Tel No: ++ 46 8 730 50 00
Fax No: ++ 46 8 83 52 62