MOSPEC

DARLINGTON COPLEMENTARY
SILICON POWER TRANSISTORS

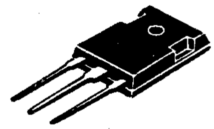
...designed for general-purpose amplifier and low speed switching applications

FEATURES:

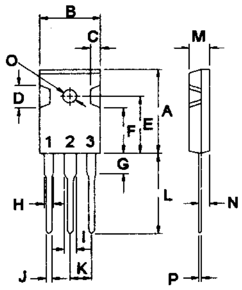
* Collector-Emitter Sustaining Voltage-
  $V_{CEO(SUS)}$ = 60 V (Min) - BDV66,BDV67
  = 80 V (Min) - BDV66A,BDV67A
  = 100 V (Min) - BDV66B,BDV67B
* Collector-Emitter Saturation Voltage
  $V_{CE(sat)}$ = 2.0 V (Max.) @ I_C = 10A
* Monolithic Construction with Built-in Base-Emitter Shunt Resistor

PNP	NPN
BDV66	BDV67
BDV66A	BDV67A
BDV66B	BDV67B

16 AMPERE
DARLINGTON
COMPLEMENTARY SILICON
POWER TRANSISTORS
60-100 VOLTS
125 WATTS



TO-247(3P)



PIN 1.BASE
2.COLLECTOR
3.EMITTER

DIM	MILLIMETERS	
	MIN	MAX
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

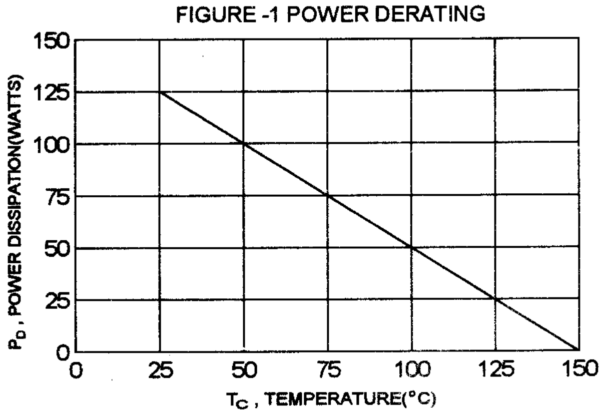
MAXIMUM RATINGS

Characteristic	Symbol	BDV66 BDV67	BDV66A BDV67A	BDV66B BDV67B	Unit
Collector-Emitter Voltage	V_{CEO}	60	80	100	V
COllector-Base Voltage	V_{CBO}	60	80	100	V
Emitter-Base Voltage	V_{EBO}	5.0			V
Collector Current-Continuous -Peak	I_C I_{CM}	16 20			A
Base Current	I_B	0.25			A
Total Power Dissipation @T_C= 25°C Derate above 25°C	P_D	125 1.0			W W/°C
Operating and Storage Junction Temperature Range	T_J ,T_{STG}	- 65 to +150			°C

THERMAL CHARACTERISTICS

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

FIGURE -1 POWER DERATING



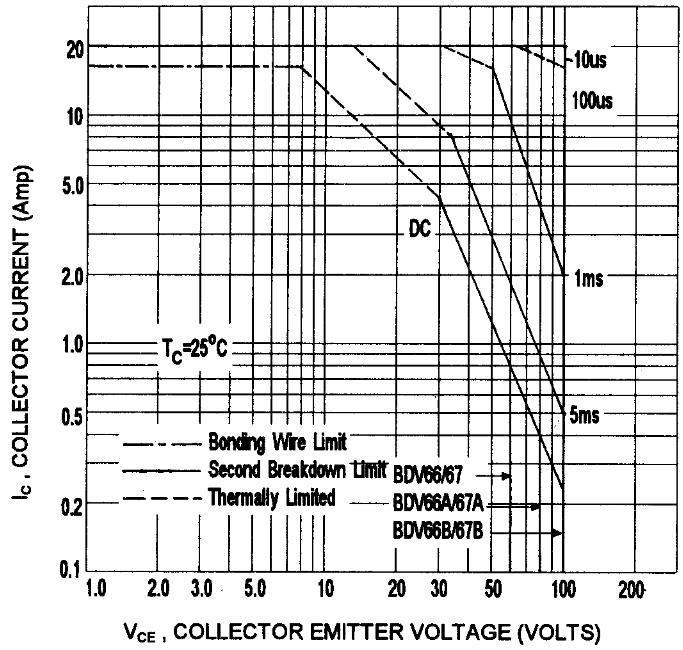
ELECTRICAL CHARACTERISTICS (T_c = 25°C unless otherwise noted)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector - Emitter Sustaining Voltage (1) (I_C = 0.1 A, L=25 mH)	BDV66,BDV67 BDV66A,BDV67A BDV66B,BDV67B	$V_{CEO(sus)}$	60 80 100		V
Collector Cutoff Current (V_{CE} = 30 V, I_B = 0) (V_{CE} = 40 V, I_B = 0) (V_{CE} = 50 V, I_B = 0)	BDV66,BDV67 BDV66A,BDV67A BDV66B,BDV67B	I_{CEO}		3.0 3.0 3.0	mA
Collector Cutoff Current (V_{CB} = 60 V, I_E = 0) (V_{CB} = 80 V, I_E = 0) (V_{CB} = 100 V, I_E = 0)	BDV66,BDV67 BDV66A,BDV67A BDV66B,BDV67B	I_{CBO}		0.4 0.4 0.4	mA
Emitter Cutoff Current (V_{EB} = 5.0 V, I_C= 0)		I_{EBO}		5.0	mA
ON CHARACTERISTICS (1)					
Collector-Emitter Saturation Voltage (I_C = 10 A, I_B = 40 mA)		$V_{CE(sat)}$		2.0	V
DYNAMIC CHARACTERISTICS					
Small-Signal Current Gain (2) (I_C = 5.0 A, V_{CE} = 3.0 V, f = 1.0 KHz)		f_T	6.0		MHz
Output Capaitance (V_{CB} = 10 V, I_E = 0 , f = 1.0 MHZ)		C_{ob}		450	pF
SWITCHING CHARACTERISTICS					
Turn On Time	I_C= 5.0A, V_{CC}= 12V) I_{B1}=-I_{B2}=40mA	t_{on}	1.0(typ)		us
Off Time		t_{off}	3.5(typ)		us

(1) Pulse Test: Pulse width = 300 us , Duty Cycle ≦ 2.0%

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

FIG-2 ACTIVE-REGION SAFE OPERATING AREA



There are two limitation 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 curves indicate.

The data of FIG-2 is base on $T_{J(PK)}$=150 °C;T_C isvariable 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 limita tion will reduce the power that can be handled to values less than the limitations imposed by second breakdown.

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