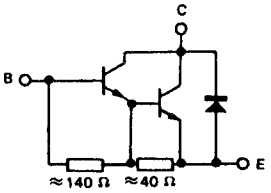
MOSPEC

HIGH VOLTAGE POWER DARLINGTON TRANSISTOR

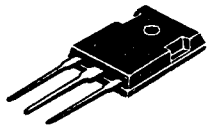
... power monolithic Darlington, specially instended for use in automotive ignition circuits.

FEATURES:
* Collector-Emitter Sustaining Voltage -
  $V_{CEO(SUS)}$ = 400 V (Min.)
* Low Collector-Emitter Saturation Voltage -
  $V_{CE(sat)}$ = 2.0V (Max.) @ I_C = 10 A, I_B = 150mA

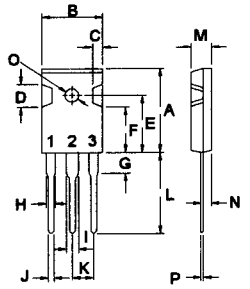


NPN
BUV37

15 AMPERE
POWER DARLINGTON
TRANSISTORS
400 VOLTS
100 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

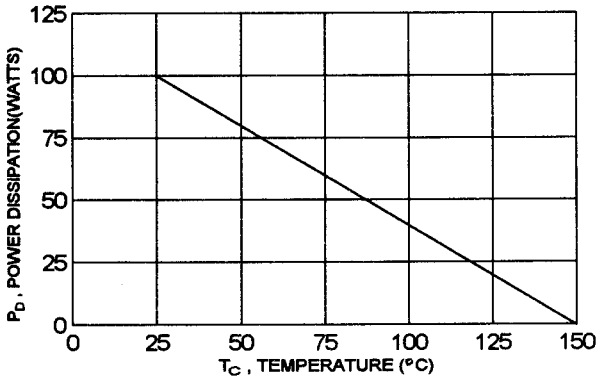
MAXIMUM RATINGS

Characteristic	Symbol	BUV37	Unit
Collector-Emitter Voltage	V_{CEO}	400	V
Collector-Base Voltage	V_{CBO}	600	V
Emitter-Base Voltage	V_{EBO}	8.0	V
Collector Current - Continuous - Peak	I_C	15 30	A
Base Current - Continuous	I_B	4.0	A
Total Power Dissipation @T_C=25°C Derate above 25°C	P_D	100 0.8	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	Rθjc	1.25	°C/W

FIGURE -1 POWER DERATING

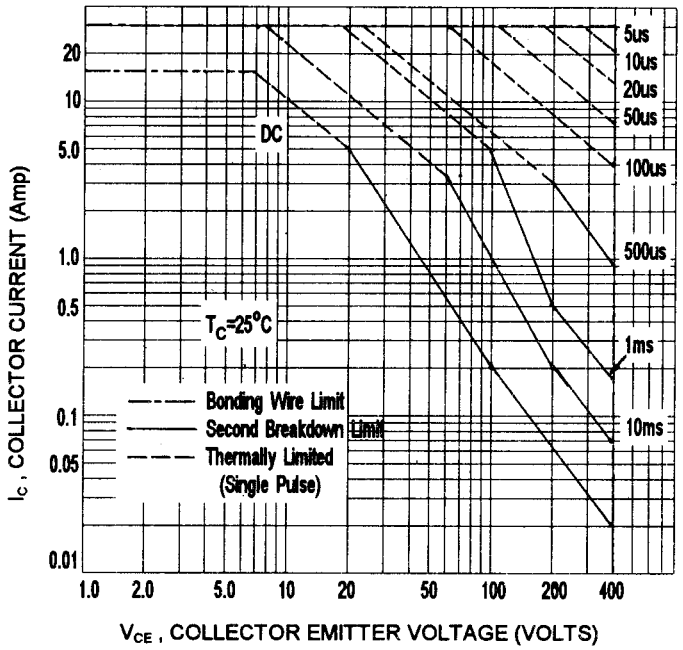


ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector - Emitter Sustaining Voltage (1) (I_C = 5.0 A, I_B = 0, L=15 mH	$V_{CEO(SUS)}$	400		V
Collector Cutoff Current (V_{CE} = 400 V, I_B= 0)	I_{CEO}		0.25	mA
Emitter Cutoff Current (V_{EB}= 6.0 V , I_C = 0)	I_{EBO}		40	mA
ON CHARACTERISTICS (1)				
DC Current Gain (I_C =15 A , V_{CE} = 5.0 V)	hFE	20		
Collector - Emitter Saturation Voltage (I_C =7.0 A, I_B = 70 mA) (I_C =10 A, I_B = 150 mA)	$V_{CE(sat)}$		1.5 2.0	V
Base - Emitter Saturation Voltage (I_C =10 A, I_B = 150 mA)	$V_{BE(sat)}$		2.7	V

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

ACTIVE-REGION SAFE OPERATING AREA (SOA)



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 SOA curve is base 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 limita - tion will reduce the power that can be handled to values less than the limitations imposed by second breakdown.

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