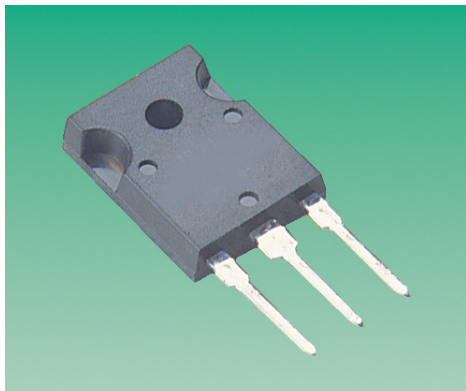


BU426A

Power Transistor



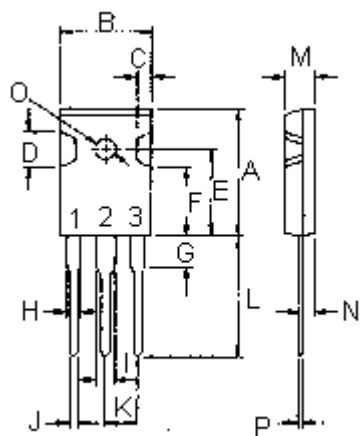
High Voltage Switching



BU426A type is a fast switching high voltage transistor, more specially intended for operating in colour TV supply systems.

Features:

- Collector-Emitter sustaining voltage - $V_{CEO(sus)} = 400V$ (Minimum) - BU426A.
- Low Collector-Emitter saturation voltage - $V_{CE(sat)} = 1.5V$ (Maximum) at $I_C = 2.5A$, $I_B = 0.5A$.
- High Voltage Power Transistor



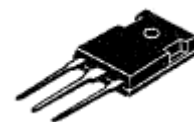
- Pin 1. Base
2. Collector
3. Emitter

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

NPN
BU426A

6 Ampere
Power Transistors
400 Volts
113 Watts



TO-247

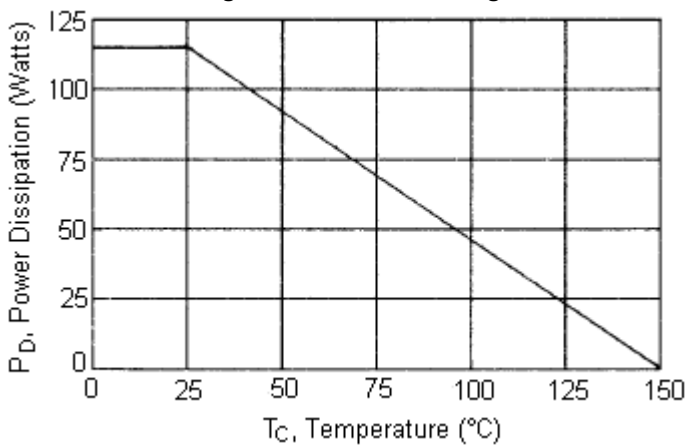
Maximum Ratings

Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	V_{CEO}	400	V
Collector-Base Voltage	V_{CBO}	900	
Emitter-Base Voltage	V_{EBO}	10	
Collector Current-Continuous -Peak	I_C	6.0 8.0	A
Base Current-Continuous	I_B	3.0	
Total Power Dissipation at $T_C = 25^\circ\text{C}$ Derate Above 25°C	P_D	113 0.904	W W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$

Thermal Characteristics

Characteristic	Symbol	Maximum	Unit
Thermal Resistance Junction to Case	$R_{\theta jc}$	1.106	$^\circ\text{C}/\text{W}$

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) ($I_C = 100\text{mA}$, $I_B = 0$)	$V_{CE(sus)}$	400	-	V	
Collector Cut off Current ($V_{CE} = 900\text{V}$, $V_{BE} = 0$)	I_{CES}	-	1.0	mA	
Emitter Cut off Current ($V_{EB} = 10\text{V}$, $I_C = 0$)	I_{EBO}	-	10		
ON Characteristics (1)					
DC Current Gain ($I_C = 0.6\text{A}$, $V_{CE} = 5.0\text{V}$)	h_{FE}	8.0	-	-	
Collector-Emitter Saturation Voltage ($I_C = 2.5\text{A}$, $I_B = 0.5\text{A}$) ($I_C = 4.0\text{A}$, $I_B = 1.25\text{A}$)	$V_{CE(sat)}$	-	1.5 3.0	V	
Base-Emitter Saturation Voltage ($I_C = 2.5\text{A}$, $I_B = 0.5\text{A}$) ($I_C = 4.0\text{A}$, $I_B = 1.25\text{A}$)	$V_{BE(sat)}$	-	1.4 1.6		
Dynamic Characteristics					
Current Gain-Bandwidth Product ($I_C = 0.2\text{A}$, $V_{CE} = 10\text{V}$, $f = 1.0\text{MHz}$)	f_T	4.0	-	MHz	
Switching Characteristics					
Turn On Time	$V_{CC} = 250\text{V}$, $I_C = 2.5\text{A}$ $I_{B1} = 0.5\text{A}$, $I_{B2} = -1\text{A}$	t_{on}	-	0.5	μs
Storage Time		t_s	-	3.5	
Fall Time		t_f	-	0.75	

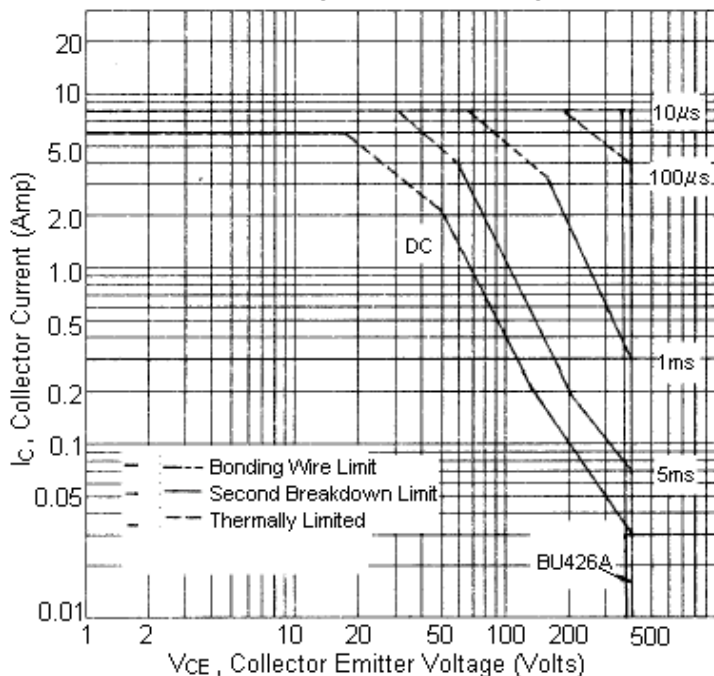
(1) Pulse Test : Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$

BU426A

Power Transistor



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 SOA curve 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 $T_{J(PK)} \leq 150^\circ\text{C}$. At high case temperatures, thermal limitation will reduce the power that can be handled to values less than the limitations imposed by second breakdown.

Specifications

$I_{C(av)}$ maximum (A)	V_{CEO} maximum (V)	V_{CES} maximum (V)	$V_{CE(Sat)}$ (V) at $I_C = 4A$	t_f maximum (μs)	P_{tot} at 25°C (W)	Package	Type	Part Number
6	400	900	3	0.5	113	TO-247	NPN	BU426A



Notes:

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