

## HIGH VOLTAGE POWER TRANSISTOR

The BU426 and BU426A Type are a fast switching high voltage transistor, more specially intended for operating in color TV supply systems.

### FEATURES:

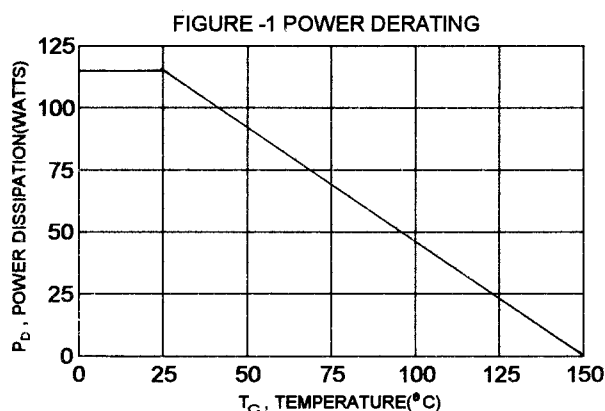
- \* Collector-Emitter Sustaining Voltage -  
 $V_{CE(sus)} = 375 \text{ V (Min.) - BU426}$   
 $= 400 \text{ V (Min.) - BU426A}$
- \* Low Collector-Emitter Saturation Voltage -  
 $V_{CE(sat)} = 1.5 \text{ V (Max.) @ } I_C = 2.5 \text{ A, } I_B = 0.5 \text{ A}$

### MAXIMUM RATINGS

Characteristic	Symbol	BU326	BU326A	Unit
Collector-Emitter Voltage	$V_{CEO}$	375	400	V
Collector-Base Voltage	$V_{CBO}$	800	900	V
Emitter-Base Voltage	$V_{EBO}$	10		V
Collector Current - Continuous - Peak	$I_C$	6.0 8.0		A
Base Current - Continuous	$I_B$	3.0		A
Total Power Dissipation @ $T_C = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	113 0.904		W W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	- 65 to +150		$^\circ\text{C}$

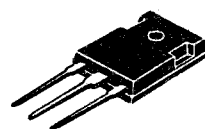
### THERMAL CHARACTERISTICS

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

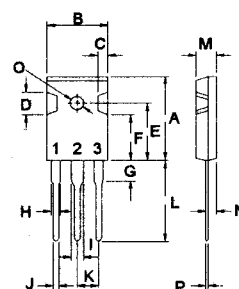


**NPN**  
**BU426**  
**BU426A**

**6.0 AMPERE**  
**POWER**  
**TRANSISTORS**  
**375-400 VOLTS**  
**113 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

**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) ( $I_C = 100\text{ mA}$ , $I_B = 0$ ) BU426 BU426A	$V_{CE(sus)}$	375 400		V
Collector Cutoff Current ( $V_{CE} = 800\text{ V}$ , $V_{BE} = 0$ ) ( $V_{CE} = 900\text{ V}$ , $V_{BE} = 0$ ) BU426 BU426A	$I_{CES}$		1.0 1.0	mA
Emitter Cutoff Current ( $V_{EB} = 10\text{ V}$ , $I_C = 0$ )	$I_{EBO}$		10	mA

**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	V

**DYNAMIC CHARACTERISTICS**

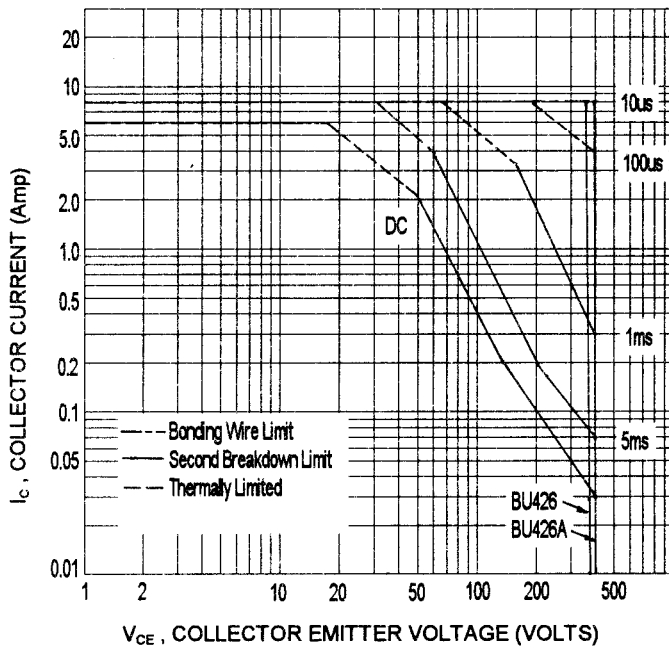
Current Gain - Bandwidth Product ( $I_C = 0.2\text{ A}$ , $V_{CE} = 10\text{ V}$ , $f = 1.0\text{ MHz}$ )	$f_T$	4.0		MHz
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**SWITCHING CHARACTERISTICS**

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	us
Storage Time		$t_s$	3.5	us
Fall Time		$t_f$	0.5	us

(1) Pulse Test: Pulse width  $\leq 300\text{ us}$ , Duty Cycle  $\leq 2.0\%$

ACTIVE-REGION SAFE OPERATING AREA (SOA)



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 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.

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