


SGS-THOMSON
 MICROELECTRONICS

BU426
BU426A

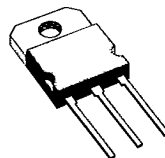
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30E D

HIGH VOLTAGE POWER SWITCH

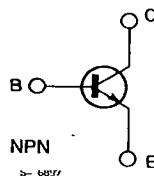
DESCRIPTION

The BU426 and BU426A are silicon multi-epitaxial mesa NPN transistors in SOT-93 plastic package, particularly intended for switch-mode CTV supply systems.



TO-218

INTERNAL SCHEMATIC DIAGRAMS



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		BU426	BU426A	
V_{CES}	Collector-emitter Voltage ($V_{BE} = 0$)	800	900	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	375	400	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)	10		V
I_C	Collector-current	6		A
I_{CM}	Collector-peak Current ($t_p = 2$ ms)	8		A
I_B	Base Current	3		A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25$ °C	113		W
T_{stg}	Storage Temperature	- 65 to 150		°C
T_j	Junction Temperature	150		°C

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THERMAL DATA

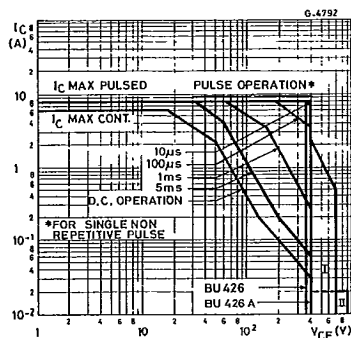
$R_{thj-case}$	Thermal Resistance Junction-case	Max	1.1	°C/W
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25\text{ °C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector Cutoff Current ($V_{BE} = 0$)	for BU426 $V_{CE} = 800\text{ V}$ for BU426A $V_{CE} = 900\text{ V}$ $T_{case} = 125\text{ °C}$ for BU426 $V_{CE} = 800\text{ V}$ for BU426A $V_{CE} = 900\text{ V}$			1 1 2 2	mA mA mA mA
I_{EBO}	Emitter Cutoff Current ($I_C = 0$)	$V_{EB} = 10\text{ V}$			10	mA
$V_{CE0(sus)}^*$	Collector-emitter Sustaining Voltage ($I_B = 0$)	for BU426 $I_C = 100\text{ mA}$ for BU426A $I_C = 100\text{ mA}$	375 400			V V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 2.5\text{ A}$ $I_B = 0.5\text{ A}$ $I_C = 4\text{ A}$ $I_B = 1.25\text{ A}$			1.5 3	V V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 2.5\text{ A}$ $I_B = 0.5\text{ A}$ $I_C = 4\text{ A}$ $I_B = 1.25\text{ A}$			1.4 1.6	V V
h_{FE}^*	DC Current Gain	$I_C = 0.6\text{ A}$ $V_{CE} = 5\text{ V}$		30	60	
t_{on}	Turn-on Time	$I_C = 2.5\text{ A}$ $I_{B1} = 0.5\text{ A}$ $I_{B1} = 0.5\text{ A}$		0.25	0.5	μs
t_s	Storage Time	$I_C = 2.5\text{ A}$ $I_{B1} = 0.5\text{ A}$ $I_{B2} = -1\text{ A}$		2.5	3.5	μs
t_f	Fall Time	$I_{B2} = -1\text{ A}$ $V_{CC} = 250\text{ V}$		0.2	0.5	μs
t_f	Fall Time	$I_C = 2.5\text{ A}$ $I_{B1} = 0.5\text{ A}$ $I_{B2} = -1\text{ A}$ $V_{CC} = 250\text{ V}$ $T_{case} = 100\text{ °C}$			0.75	μs

* Pulsed : pulse duration = 300 μs , duty cycle = 1.5 %.

Safe Operating Areas.

I = Area of permissible operation driving turn-on provided $R_{BE} = 100\Omega$ and $t_p \leq 0.6\mu\text{s}$.II = Area of permissible operation with $V_{BE} \leq 0$; $t_p \leq 2\mu\text{s}$.