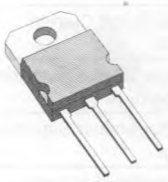
SGS-THOMSON MICROELECTRONICS

BU426
BU426A

HIGH VOLTAGE POWER SWITCH

DESCRIPTION

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



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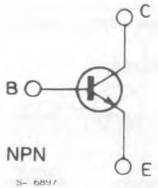
INTERNAL SCHEMATIC DIAGRAMS



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

THERMAL DATA

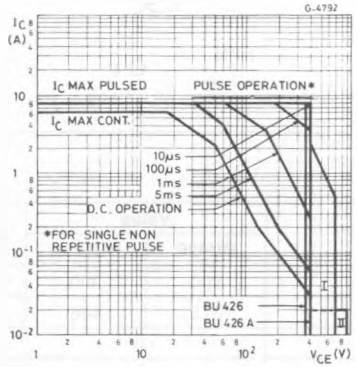
$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	1.1	°C/W

ELECTRICAL CHARACTERISTICS (T_{case} = 25 °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 V			1	mA
		for **BU426A**	V_{CE} = 900 V			1	mA
		T_{case} = 125 °C					
		for **BU426**	V_{CE} = 800 V			2	mA
		for **BU426A**	V_{CE} = 900 V			2	mA
I_{EBO}	Emitter Cutoff Current (I_C = 0)	V_{EB} = 10 V				10	mA
$V_{CEO(sus)}$*	Collector-emitter Sustaining Voltage (I_B = 0)	for **BU426**	I_C = 100 mA	375			V
		for **BU426A**	I_C = 100 mA	400			V
$V_{CE(sat)}$*	Collector-emitter Saturation Voltage	I_C = 2.5 A	I_B = 0.5 A			1.5	V
		I_C = 4 A	I_B = 1.25 A			3	V
$V_{BE(sat)}$*	Base-emitter Saturation Voltage	I_C = 2.5 A	I_B = 0.5 A			1.4	V
		I_C = 4 A	I_B = 1.25 A			1.6	V
h_{FE}*	DC Current Gain	I_C = 0.6 A	V_{CE} = 5 V		30	60	
t_{on}	Turn-on Time	I_C = 2.5 A I_{B1} = 0.5 A	V_{CC} = 250 V		0.25	0.5	µs
t_s	Storage Time	I_C = 2.5 A	I_{B1} = 0.5 A		2.5	3.5	µs
t_f	Fall Time	I_{B2} = − 1 A	V_{CC} = 250 V		0.2	0.5	µs
t_f	Fall Time	I_C = 2.5 A I_{B2} = − 1 A T_{case} = 100 °C	I_{B1} = 0.5 A V_{CC} = 250 V			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} = 100Ω and $t_p \leq 0.6$µs.
II = Area of permissible operation with $V_{BE} \leq 0$; $t_p < 2$µs.