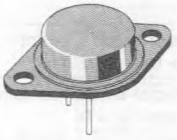
SGS-THOMSON MICROELECTRONICS

BU326
BU326A

HIGH VOLTAGE POWER SWITCH

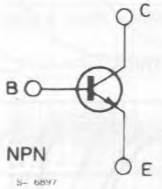
DESCRIPTION

The BU326 and BU326A are silicon multiepitaxial mesa NPN transistors in Jedec TO-3 metal case particularly intended for switch-mode CTV supply system.



TO-3

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		BU326A	BU326	
V_{CES}	Collector-emitter Voltage (V_{BE} = 0)	900	800	V
V_{CEO}	Collector-emitter Voltage (I_B = 0)	400	325	V
V_{EBO}	Base-emitter Voltage (I_C = 0)	10		V
I_C	Collector Current	6		A
I_{CM}	Collector Peak Current	8		A
I_B	Base Current	3		A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25°C$	75		W
T_{stg}	Storage Temperature	– 65 to 200		°C
T_j	Junction Temperature	200		°C

THERMAL DATA

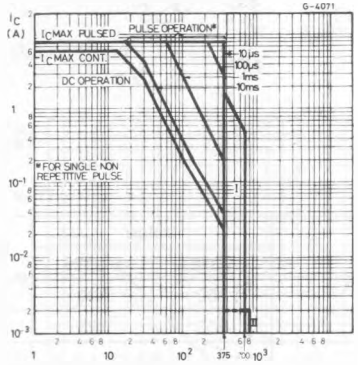
$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	2.33	°C/W

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)	V_{CE} = 900V	for **BU326A**			1	mA
		V_{CE} = 900V	for **BU326**			1	mA
		V_{CE} = 900V, T_{case} = 125°C	for **BU326**			2	mA
		V_{CE} = 900V, T_{case} = 125°C	for **BU326A**			2	mA
I_{EBO}	Emitter Cutoff Current (I_C = 0)	V_{EB} = 10V				10	mA
$V_{CEO(sus)}$*	Collector-emitter Sustaining Voltage (I_B = 0)	I_C = 100mA	for **BU326**	325			V
			for **BU326A**	400			V
$V_{CE(sat)}$*	Collector-emitter Saturation Voltage	I_C = 2.5A	I_B = 0.5A			1.5	V
		I_C = 4A	I_B = 1.25A			3	V
$V_{BE(sat)}$*	Base-emitter Saturation Voltage	I_C = 2.5A	I_B = 0.5A			1.4	V
		I_C = 4A	I_B = 1.25A			1.6	V
h_{FE}*	DC Current Gain	I_C = 1A	V_{CE} = 5V		25		
t_{on}	Turn-on Time	I_C = 2.5A, V_{CC} = 250V	I_{B1} = 0.5A			0.5	µs
t_s	Storage Time	I_C = 2.5A	I_{B1} = 0.5A				
		I_{B2} = − 1A	V_{CC} = 250V			3.5	µs
t_f	Fall Time	I_C = 2.5A	I_{B1} = 0.5A				
		I_{B2} = − 1A	V_{CC} = 250V			0.5	µs

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

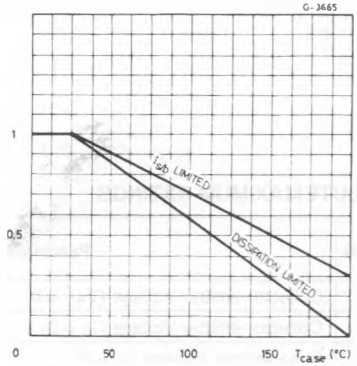
Safe Operating Areas.



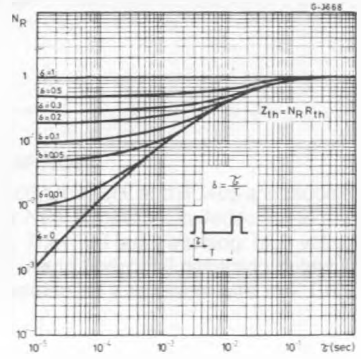
I – Area of permissible operation during turn-on provided $R_{BE} \leq 100\Omega$ and $t_p \leq 0.6$

II - Area of permissible operation with $V_{BE} \leq 0$ and $t_p \leq 2\mu s$

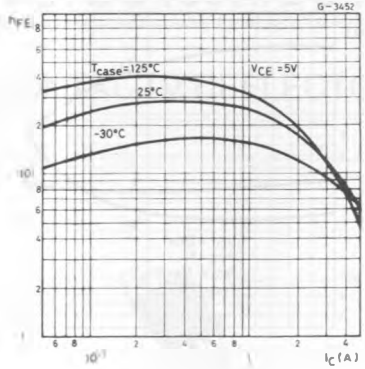
Derating Curves.



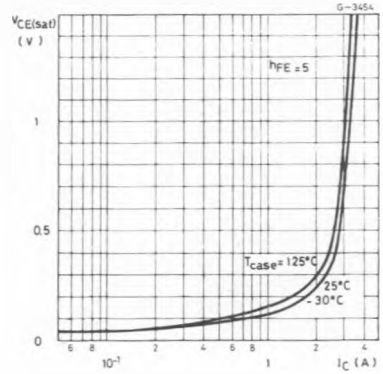
Thermal Transient Response.



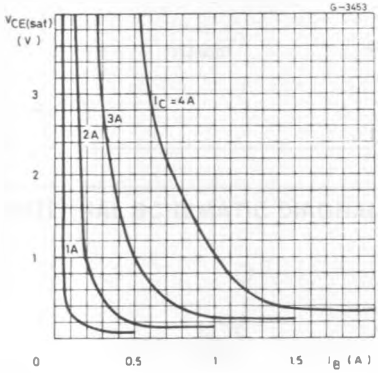
DC Current Gain.



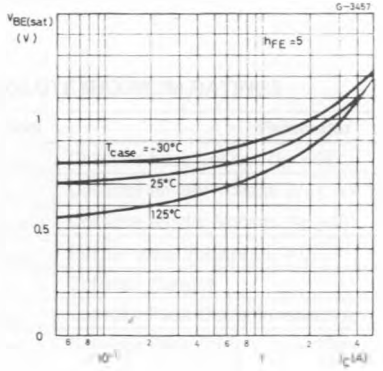
Collector-emitter Saturation Voltage.



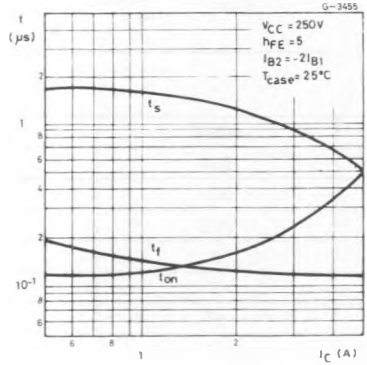
Collector-emitter Saturation Voltage.



Base-emitter Saturation Voltage.



Saturated Switching Characteristics.



Saturated Switching Characteristics.