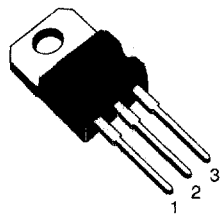
SILICON NPN SWITCHING TRANSISTORS

- SGS-THOMSON PREFERRED SALESTYPES
- NPN TRANSISTOR
- VERY HIGH SWITCHING SPEED

APPLICATIONS:
- HORIZONTAL DEFLECTION FOR MONOCHROME TV



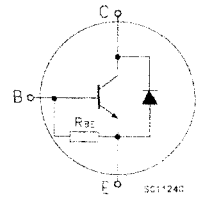
TO-220

DESCRIPTION

The BU406D and BU407D are silicon planar epitaxial NPN transistors with integrated damper diode, in Jedec TO-220 plastic package. They are fast switching, devices for use in horizontal deflection output stages of MTV receivers with 110° CRT.

The BU406D is primarily intended for large screen, while the BU407D is for medium and small screens

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		BU406D	BU407D	
V_{CBO}	Collector-Base Voltage (I_E = 0)	400	330	V
V_{CEV}	Collector-Emitter Voltage (V_{BE} = - 1.5V)	400	330	V
V_{EBO}	Emitter-Base Voltage (I_C = 0)	6		V
I_C	Collector Current	7		A
I_{CM}	Collector Peak Current (repetitive)	10		A
I_{CM}	Collector Peak Current (t_p = 10ms)	15		A
I_B	Base Current	4		A
P_{tot}	Total Dissipation at T_c = 25 °C	60		W
T_{stg}	Storage Temperature	-65 to 150		°C
T_j	Max. Operating Junction Temperature	150		°C

THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	2.08	°C/W
$R_{thj\text{-}amb}$	Thermal Resistance Junction-ambient	Max	70	°C/W

ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEV}	Collector Cut-off Current (V_{BE} = - 1.5V)	for **BU406D** V_{CE} =400 V			15	mA
		for **BU407D** V_{CE} =330 V			15	mA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	V_{EB} = 6 V			400	mA
$V_{CE(sat)}$*	Collector-emitter Saturation Voltage	I_C = 5 A I_B = 0.65 A			1	V
$V_{BE(sat)}$*	Base-emitter Saturation Voltage	I_C = 5 A I_B = 0.65 A			1.3	V
f_T	Transition-Frequency	I_C = 0.5 A V_{CE} = 10V	10			MHz
t_{off}**	Turn-off Time	I_C = 5 A I_{Bend} = 0.65 A			0.75	µs
$I_{s/b}$	Second Breakdown Collector Current	V_{CE} = 40 V t = 10 ms		4		A
V_F	Diode Forward Voltage	I_F = 5 A			1.5	A

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