Silicon NPN Transistor

BU409

Linear and Switching

250V / 7A

DATASHEET

OEM –SGS Ates

Source: SGS Ates Databook 1977

Datasheet Rev. 2.0 – 09/19 – data without warranty / liability

BU 409

EPITAXIAL PLANAR NPN

LINEAR AND SWITCHING APPLICATIONS

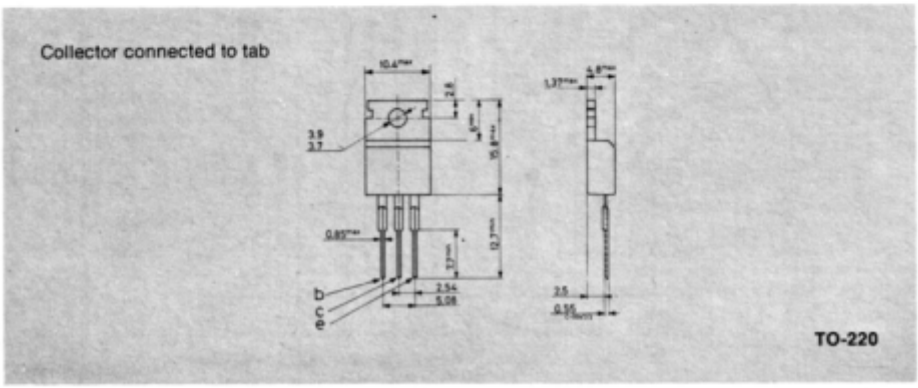
The BU 409 is a silicon epitaxial planar NPN transistor in Jedec TO-220 plastic package. It is intended for general purpose linear and switching applications.

ABSOLUTE MAXIMUM RATINGS

V_{CBO}	Collector-base voltage ($I_E = 0$)	250	V
V_{CES}	Collector-emitter voltage ($V_{BE} = 0$)	250	V
V_{CEO}	Collector-emitter voltage ($I_B = 0$)	150	V
V_{EBO}	Emitter-base voltage ($I_C = 0$)	6	V
I_C	Collector current	7	A
I_B	Base current	1	A
P_{tot}	Total power dissipation at $T_{case} \leq 25$ °C	60	W
T_{stg}	Storage temperature	-65 to 150	°C
T_j	Junction temperature	150	°C

MECHANICAL DATA

Dimensions in mm



BU 409

THERMAL DATA

$R_{th\ j\text{-}case}$	Thermal resistance junction-case	max	2.08	°C/W
$R_{th\ j\text{-}amb}$	Thermal resistance junction-ambient	max	70	°C/W

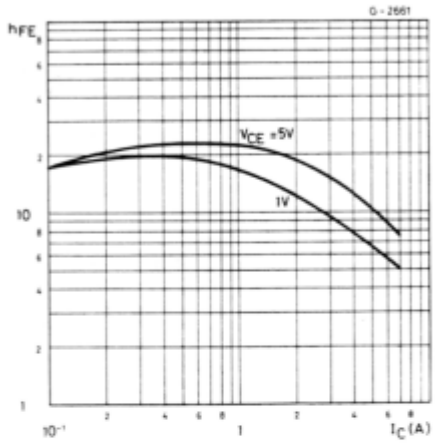
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

	Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector cutoff current ($I_E = 0$)	V_{CB} = 250 V			5	mA
I_{EBO}	Emitter cutoff current ($I_C = 0$)	V_{EB} = 6 V			1	mA
$V_{CE\ (sat)}$*	Collector-emitter saturation voltage	I_C = 3 A I_B = 0.4 A			1	V
$V_{BE\ (sat)}$*	Base-emitter saturation voltage	I_C = 3 A I_B = 0.4 A			1.25	V
h_{FE}*	DC current gain	I_C = 3 A V_{CE} = 1 V	7.5			—
f_T	Transition frequency	I_C = 500mA V_{CE} = 10 V	10			MHz

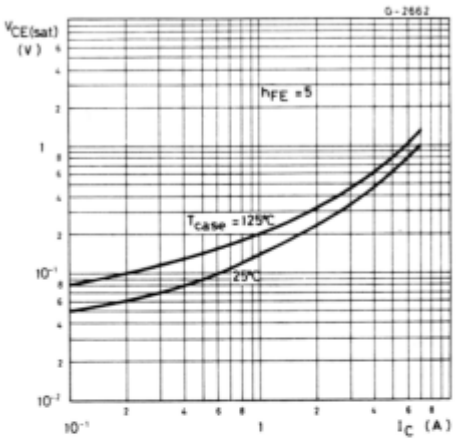
* Pulsed: pulse duration = 300 μs, duty cycle = 1.5%

BU 409

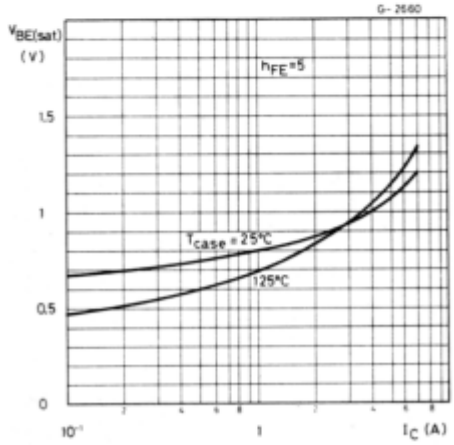
DC current gain



Collector-emitter saturation voltage



Base-emitter saturation voltage



Power rating chart