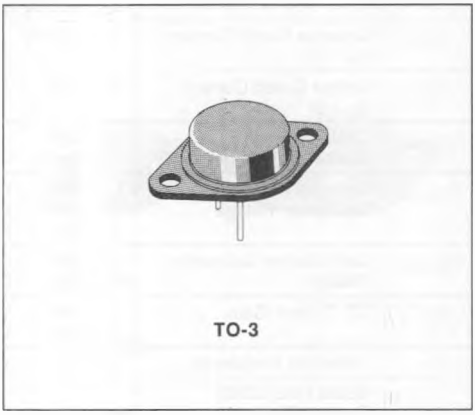
SGS-THOMSON MICROELECTRONICS

BUR22

HIGH CURRENT, HIGH SPEED, HIGH POWER TRANSISTOR

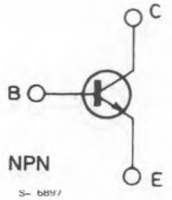
ADVANCE DATA

- HIGH CURRENT
- HIGH SWITCHING SPEED
- HIGH POWER
- GOOD SOA
- GOOD RBSOA



TO-3

INTERNAL SCHEMATIC DIAGRAM



DESCRIPTION

The BUR22 is a silicon multiepitaxial planar NPN transistor in modified Jedec TO-3 metal case, intended for use in switching and linear low voltage, high current applications in military and industrial equipments.

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base Voltage (I_E = 0)	350	V
V_{CEX}	Collector-emitter Voltage (V_{BE} = – 1.5V)	350	V
V_{CEO}	Collector-emitter Voltage (I_B = 0)	250	V
V_{EBO}	Emitter-base Voltage (I_C = 0)	7	V
I_C	Collector Current	40	A
I_{CM}	Collector Peak Current (t_p < 10ms)	50	A
I_B	Base Current	10	A
P_{tot}	Total Dissipation at T_c < 25°C	250	W
T_{stg}	Storage Temperature	– 65 to 200	°C
T_j	Max. Operating Junction Temperature	200	°C

THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case	max	0.7	°C/W

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

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEX}	Collector Cutoff Current	V_{CE} = 350V V_{BE} = − 1.5V V_{CE} = 350V V_{BE} = − 1.5V T_c = 125°C			500 6	μA mA
I_{CEO}	Collector Cutoff Current (I_B = 0)	V_{CE} = 250V			1	mA
I_{EBO}	Emitter Cutoff Current (I_C = 0)	V_{EB} = 7V			1	mA
$V_{CEO(sus)}$*	Collector Emitter Sustaining Voltage	I_C = 0.2A L = 25mH	250			V
$V_{CE(sat)}$*	Collector-emitter Saturation Voltage	I_C = 10A I_B = 1A I_C = 20A I_B = 2.5A I_C = 25A I_B = 4A			1 1.5 1.5	V V V
$V_{BE(sat)}$*	Base-emitter Saturation Voltage	I_C = 20A I_B = 2.5A I_C = 25A I_B = 4A			1.8 2.2	V V
h_{FE}*	DC Current Gain	I_C = 10A V_{CE} = 4V I_C = 20A V_{CE} = 4V	15 10		60	
f_T	Transition Frequency	I_C = 1A V_{CE} = 15V f = 10MHz		20		MHz
	RESISTIVE LOAD					
t_{on}	Turn-on Time	I_C = 20A I_{B1} = − I_{B2} = 2.5A			1	μs
t_s	Storage Time	V_{CC} = 100V V_{BB} = − 6V			2	μs
t_f	Fall Time	t_p = 10μs			0.5	μs

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