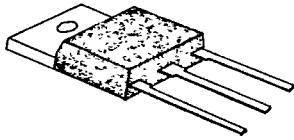


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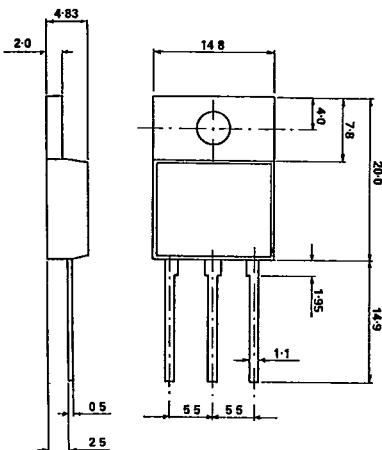
BU 999

NPN MULTI-EPITAXIAL POWER TRANSISTOR

Suitable for switching
and linear applications

MECHANICAL DATA

Dimensions in mm



FEATURES

- HIGH POWER
- FAST SWITCHING
- HIGH RELIABILITY

APPLICATIONS

- POWER SWITCHING CIRCUITS

SOT93

(ALSO AVAILABLE IN CHIP FORM)

ABSOLUTE MAXIMUM RATINGS ($T_{CASE} = 25^{\circ}\text{C}$ unless otherwise stated)

V_{CBO}	Collector-base voltage ($I_E = 0$)	160V
V_{CEO}	Collector-emitter voltage ($I_B = 0$)	140V
V_{EBO}	Emitter-base voltage ($I_C = 0$)	6V
I_C	Collector current	25A
$I_{C(PK)}$	Peak collector current	40A
I_B	Base current	10A
P_{tot}	Total dissipation at $T_{CASE} = 25^{\circ}\text{C}$	106W
T_{stg}	Storage temperature	-55 to 200°C
T_J	Maximum operating junction temperature	200°C
R_{th}	Thermal resistance (junction-case)	Max. 1.17°C/W

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ELECTRICAL CHARACTERISTICS ($T_{CASE} = 25^{\circ}\text{C}$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{CE(sus)}$ Collector-emitter sustaining voltage	$I_B = 0$, $I_C = 50\text{mA}$	140			V
I_{CEX} Collector cut-off current	$V_{BE} = -1.5\text{V}$ $V_{CE} = 140\text{V}$		10		μA
I_{CBO} Collector cut-off current	$I_E = 0$, $V_{CB} = 160\text{V}$		100		μA
I_{CEO} Collector cut-off current	$I_B = 0$ $V_{CE} = 70\text{V}$		50		μA
I_{EBO} Emitter cut-off current	$I_C = 0$ $V_{BE} = 6\text{V}$		100		μA
$V_{CE(sat)}$ Collector-emitter saturation voltage	$I_C = 10\text{A}$ $I_B = 1\text{A}$		0.8		V
	$I_C = 25\text{A}$ $I_B = 2.5\text{A}$		1.5		V
$V_{BE(sat)}$ Emitter-base saturation voltage	$I_C = 10\text{A}$ $I_B = 1\text{A}$		1.8		V
	$I_C = 25\text{A}$ $I_B = 2.5\text{A}$		2.5		V
$V_{BE(on)}$ Emitter-base on voltage	$I_C = 10\text{A}$ $V_{CE} = 2\text{V}$		1.8		V
h_{FE} DC Current gain	$I_C = 0.5\text{A}$ $V_{CE} = 2\text{V}$	35			—
	$I_C = 10\text{A}$ $V_{CE} = 2\text{V}$	25	100		—
	$I_C = 25\text{A}$ $V_{CE} = 2\text{V}$	12			—

SWITCHING CHARACTERISTICS ($T_{CASE} = 25^{\circ}\text{C}$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
t_{on} On time	$V_{CC} = 80\text{V}$ $I_C = 10\text{A}$ $I_{B1} = I_{B2} = 1\text{A}$		0.3		μs
t_s Storage time			1.5		μs
t_f Fall time			0.25		μs

* Pulse test $t_p = 300\mu\text{s}$ $\delta \leq 2\%$