

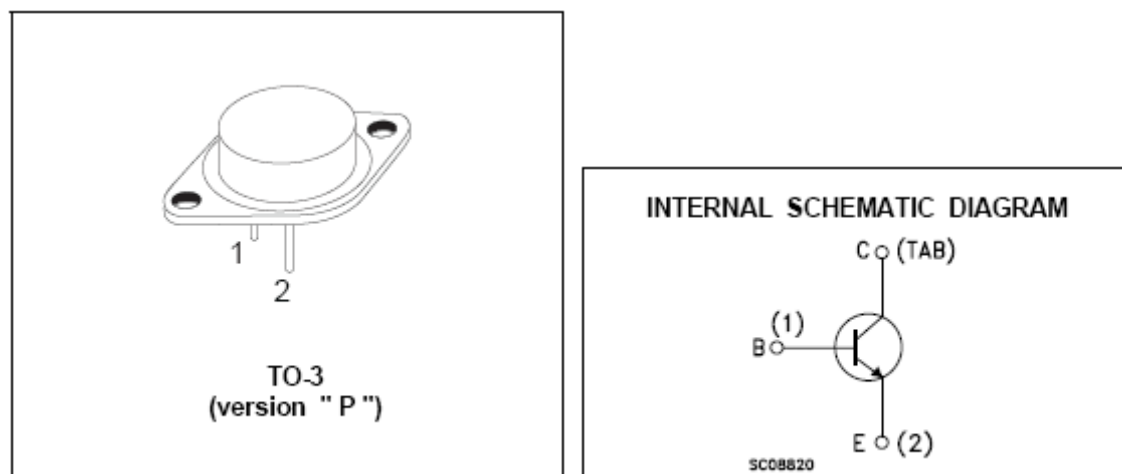
BUR52

HIGH CURRENT NPN SILICON TRANSISTORS

LINEAR AND SWITCHING INDUSTRIAL EQUIPMENT

The BUR52 is a silicon multiepitaxial planar NPN transistor in modified jedec TO-3 metal case, Intended for use in switching and linear applications in military and industrial equipment.

Compliance to RoHS.



ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings	Value	Unit
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	250	V
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	350	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	10	V
I_C	Collector Current	60	A
	$I_{CM} t_p = (10 \text{ ms})$	80	

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Symbol	Ratings	Value	Unit
I_B	Base Current	16	A
P_T	Power Dissipation @ $T_C = 25^\circ$	350	Watts
T_J	Junction Temperature	200	$^\circ\text{C}$
T_S	Storage Temperature	-55 to +200	

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-C}	Thermal Resistance, Junction to Case	0.5	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS

$T_C = 25^\circ\text{C}$ unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit
I_{CEO}	Collector Cutoff Current	$V_{CE} = 250\text{ V} ; (I_B = 0)$	-	-	1	mA
I_{EBO}	Emitter Cutoff Current	$V_{BE} = 7\text{ V} ; (I_C = 0)$	-	-	0.2	μA
I_{CBO}	Collector Cutoff Current	$T_{CASE} = 25^\circ\text{C} ; V_{CB} = 350\text{ V} ; (I_E = 0)$	-	-	0.2	mA
		$T_{CASE} = 125^\circ\text{C} ; V_C = 350\text{ V} ; (I_E = 0)$	-	-	2	
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage (*)	$I_C = 200\text{ A}$	250	-	-	V
V_{EBO}	Emitter-Base Voltage	$I_C = 10\text{ mA} ; (I_C = 0)$	10	-	-	V
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	$I_C = 25\text{ A} ; I_B = 2\text{ A}$	-	-	1	V
		$I_C = 40\text{ A} ; I_B = 4\text{ A}$	-	0.7	1.5	
$V_{BE(SAT)}$	Base-Emitter saturation Voltage (*)	$I_C = 25\text{ A} ; I_B = 2\text{ A}$	-	-	1.8	V
		$I_C = 40\text{ A} ; I_B = 4\text{ A}$	-	1.5	2	

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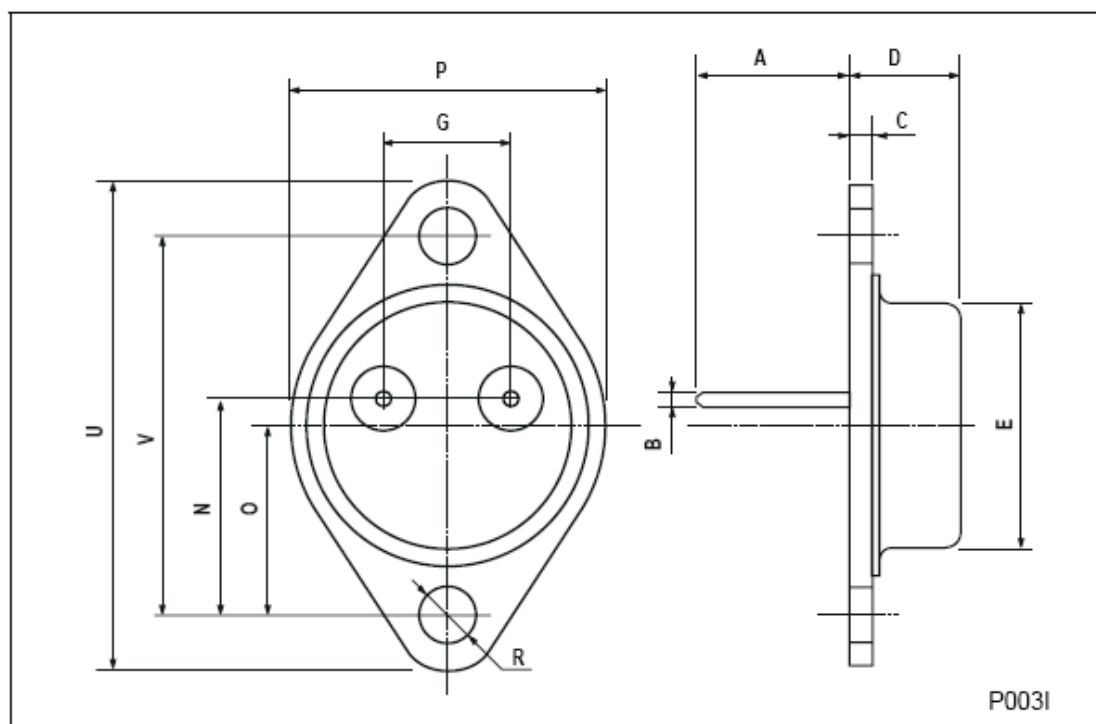
Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit
h_{FE}	DC Current Gain (*)	$V_{CE} = 4 \text{ V} ; I_C = 5 \text{ A}$	20	-	100	-
		$V_{CE} = 4 \text{ V} ; I_C = 40 \text{ A}$	15	-	-	
$I_{S/b}$	Second Breakdown Collector Current	$V_{CE} = 20 \text{ V} ; t = 1 \text{ s}$	17.5	-	-	A
f_T	Transition - Frequency	$V_{CE} = 5 \text{ V} ; I_C = 1 \text{ A} ; f = 1 \text{ MHz}$	-	10	16	MHz
t_{on}	Turn-on time	$V_{CC} = 100 \text{ V} ; I_C = 40 \text{ A} ; I_{B1} = 4 \text{ A}$	-	0.3	1	μs
t_s	Storage Time	$V_{CC} = 100 \text{ V} ; I_C = 40 \text{ A}$ $I_{B1} = 4 \text{ A} ; I_{B2} = -4 \text{ A}$	-	1.2	2	μs
f_f	Fall Time		-	0.2	0.6	
	Clamped $E_{S/b}$ Collector Current	$V_{clamp} = 250 \text{ V} ; L = 500 \mu\text{H}$	40	-	-	A

(*) Pulse duration = 300 μs , Duty Cycle $\angle 1.5 \%$

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TO-3 (version P) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	11.00	11.7	13.10	0.433		0.516
B	1.45	1.5	1.60	0.057		0.063
C	2.7		2.92	0.106		0.115
D	8.9		9.4	0.350		0.370
E	19.00		20.00	0.748		0.787
G	10.70	10.9	11.10	0.421	0.429	0.437
N	16.50	16.9	17.20	0.650	0.665	0.677
P	25.00		26.00	0.984		1.024
R	3.88		4.2	0.153		0.165
U	38.50		39.30	1.516		1.547
V	30.00	30.14	30.30	1.181	1.186	1.193



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