



BUR52

HIGH CURRENT NPN SILICON TRANSISTORS

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	I_C	60
		$I_{CM} t_p = (10 \text{ ms})$	80
I_B	Base Current	16	A
P_T	Power Dissipation @ $T_C = 25^\circ$	350	W
T_J	Junction Temperature	200	°C
T_S	Storage Temperature	-55 to +200	

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-C}	Thermal Resistance, Junction to Case	0.5	°C/W

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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

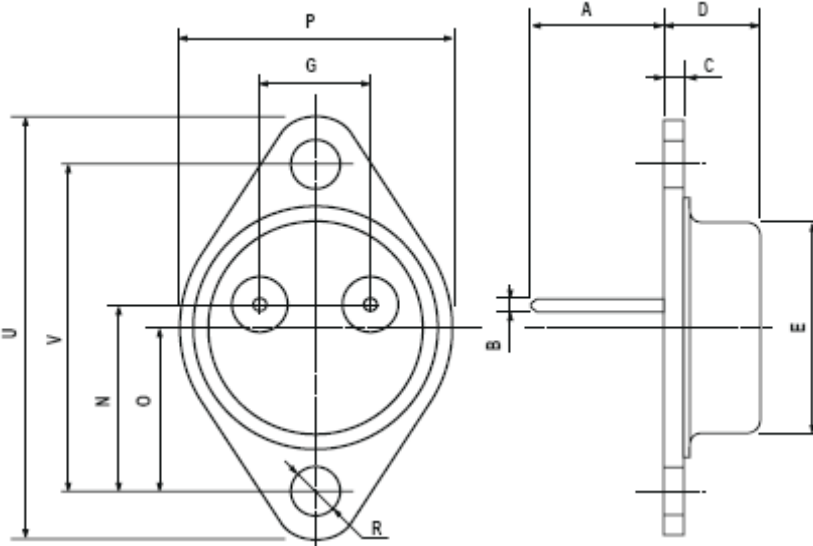
Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
I_{CEO}	Collector Cutoff Current	$V_{CE} = 250 \text{ V}, (I_B = 0)$	-	-	1	mA
I_{EBO}	Emitter Cutoff Current	$V_{BE} = 7 \text{ V}, (I_C = 0)$	-	-	0.2	μA
I_{CBO}	Collector Cutoff Current	$T_{CASE} = 25^\circ\text{C}$ $V_{CB} = 350 \text{ V}, (I_E = 0)$	-	-	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	
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 $\leq 1.5 \%$

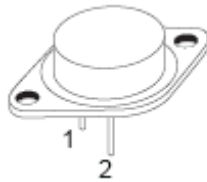
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MECHANICAL DATA CASE TO-3

DIMENSIONS (mm)		
	min	max
A	11	13.10
B	0.97	1.15
C	1.5	1.65
D	8.32	8.92
F	19	20
G	10.70	11.1
N	16.50	17.20
P	25	26
R	4	4.09
U	38.50	39.30
V	30	30.30



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector



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