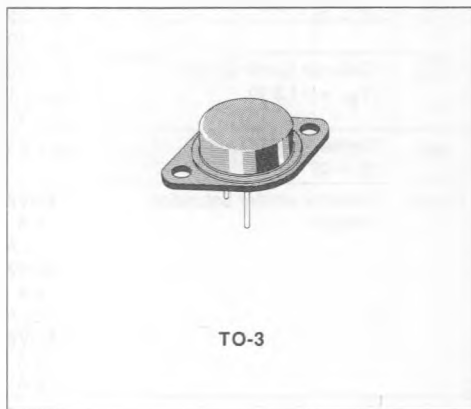
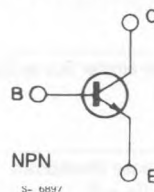


POWER SWITCH
DESCRIPTION

The BUV23, BUV24 and BUV25 are silicon multi-epitaxial mesa NPN transistors in Jedec TO-3 metal case, intended for use in power switching applications in military and industrial equipments.


INTERNAL SCHEMATIC DIAGRAM

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value			Unit
		BUV23	BUV24	BUV25	
V_{CBO}	Collector-base Voltage ($I_E = 0$)	400	450	500	V
V_{CER}	Collector-emitter Voltage ($R_{BE} = 100 \Omega$)	390	440	500	V
V_{CEX}	Collector-emitter Voltage ($V_{BE} = -1.5$ V)	400	450	500	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	325	400	500	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)	7	7	7	V
I_C	Collector Current	30	20	15	A
I_{CM}	Collector Peak Current ($t_p = 10$ ms.)	40	30	20	A
I_B	Base Current	6	4	3	A
P_{Tot}	Total Power Dissipation at $T_{case} \leq 25^\circ C$	250			W
T_{stg}	Storage Temperature	- 65 to 200			$^\circ C$
T_j	Junction Temperature	200			$^\circ C$

THERMAL DATA

$R_{th\ j-case}$	Thermal Resistance Junction-case	max	0.7	°C/W
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25\text{ °C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEO}	Collector Cutoff Current ($I_B = 0$)	$V_{CE} = 260\text{ V}$ for BUV23 $V_{CE} = 320\text{ V}$ for BUV24 $V_{CE} = 400\text{ V}$ for BUV25			3 3 3	mA mA mA
I_{CEX}	Collector Cutoff Current ($V_{BE} = -1.5\text{ V}$)	$V_{CE} = V_{CEX}$ $T_{case} = 125\text{ °C}$ $V_{CE} = V_{CEX}$			3 12	mA mA
I_{EBO}	Emitter Cutoff Current ($I_C = 0$)	$V_{EB} = 5\text{ V}$			1	mA
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	for BUV23 $I_C = 8\text{ A}$ $I_B = 1.6\text{ A}$ $I_C = 16\text{ A}$ $I_B = 3.2\text{ A}$ for BUV24 $I_C = 6\text{ A}$ $I_B = 1.2\text{ A}$ $I_C = 12\text{ A}$ $I_B = 2.4\text{ A}$ for BUV25 $I_C = 4\text{ A}$ $I_B = 0.8\text{ A}$ $I_C = 8\text{ A}$ $I_B = 1.6\text{ A}$		0.2 0.35 0.15 0.3 0.2 0.6	0.8 1 0.6 1 0.6 1	V V V V V V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	for BUV23 $I_C = 16\text{ A}$ $I_B = 3.2\text{ A}$ for BUV24 $I_C = 12\text{ A}$ $I_B = 2.4\text{ A}$ for BUV25 $I_C = 8\text{ A}$ $I_B = 1.6\text{ A}$		1.15 1 1.2	1.5 1.15 1.5	V V V
$V_{CEO(BUS)}^*$	Collector-emitter Sustaining Voltage	$I_C = 200\text{ mA}$ $L = 25\text{ mH}$ for BUV23 for BUV24 for BUV25	325 400 500			V V V
$V_{(BR)EBO}^*$	Emitter-base Breakdown Voltage ($I_C = 0$)	$I_E = 50\text{ mA}$	7			V
h_{FE}^*	DC Current Gain	$V_{CE} = 4\text{ V}$ for BUV23 $I_C = 8\text{ A}$ $I_C = 16\text{ A}$ $V_{CE} = 4\text{ V}$ for BUV24 $I_C = 6\text{ A}$ $I_C = 12\text{ A}$ $V_{CE} = 4\text{ V}$ for BUV25 $I_C = 4\text{ A}$ $I_C = 8\text{ A}$	15 8 15 8 15 8		60 60 60	
f_T	Transition Frequency	$V_{CE} = 15\text{ V}$ $I_C = 2\text{ A}$ $f = 10\text{ MHz}$	8			MHz
t_{on}	Turn-on Time	for BUV23 $I_C = 16\text{ A}$ $I_B = 3.2\text{ A}$ for BUV24 $I_C = 12\text{ A}$ $I_B = 2.4\text{ A}$ for BUV25 $I_C = 8\text{ A}$ $I_B = 1.6\text{ A}$		0.55 0.6 0.9	1.3 1.6 1.8	μs μs μs

* Pulsed : pulse duration = 300 μs , duty cycle $\leq 2\%$.

ELECTRICAL CHARACTERISTICS (continued)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit	
t_f	Fall Time	for BUV23 $I_C = 16\text{ A}$	$I_{B1} = -I_{B2} = 3.2\text{ A}$	0.26	1.2	μs	
		for BUV24 $I_C = 12\text{ A}$					$I_{B1} = -I_{B2} = 2.4\text{ A}$
		for BUV25 $I_C = 8\text{ A}$					
t_s	Storage Time	for BUV23 $I_C = 16\text{ A}$	$I_{B1} = -I_{B2} = 3.2\text{ A}$	1.7	2.5	μs	
		for BUV24 $I_C = 12\text{ A}$					$I_{B1} = -I_{B2} = 2.4\text{ A}$
		for BUV25 $I_C = 8\text{ A}$					

* Pulsed, pulse duration = 300 μs , duty cycle < 2%.