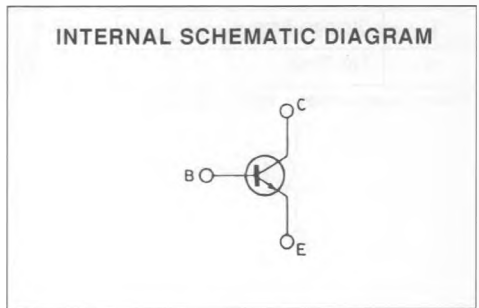
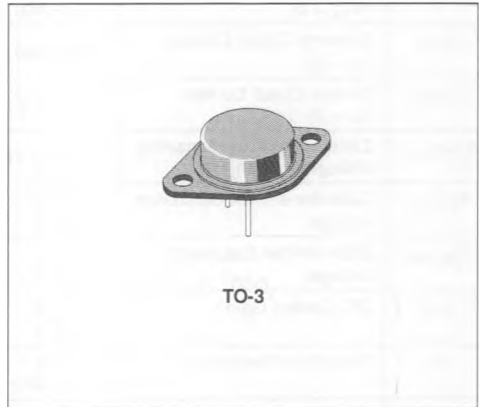


HIGH VOLTAGE POWER SWITCH

DESCRIPTION

The BUX13 is a silicon multiepitaxial mesa NPN transistor in Jedec TO-3 metal case, intended for high voltage, fast switching applications.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CES}	Collector-emitter Voltage ($V_{BE} = 0$)	400	V
V_{CER}	Collector-emitter Voltage ($R_{BE} \leq 100 \Omega$)	390	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	325	V
V_{EBO}	Base-emitter Voltage ($I_C = 0$)	7	V
I_C	Collector Current	15	A
I_{CM}	Collector Peak Current ($t_p \leq 10$ ms)	20	A
I_B	Base Current	3	A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25$ °C	150	W
T_{stg}	Storage Temperature	- 65 to 200	°C
T_j	Junction Temperature	200	°C

THERMAL DATA

$R_{th(j-case)}$	Thermal Resistance Junction-case	Max	1.17	$^{\circ}C/W$
------------------	----------------------------------	-----	------	---------------

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector Cutoff Current ($V_{BE} = 0$)	$V_{CE} = 400 V$ $V_{CE} = 400 V$ $T_{case} = 125^{\circ}C$			1.5 6	mA mA
I_{CEO}	Collector Cutoff Current ($I_B = 0$)	$V_{CE} = 260 V$			1.5	mA
I_{EBO}	Emitter Cutoff Current ($I_C = 0$)	$V_{EB} = 7 V$			1	mA
$V_{CEO(sus)}^*$	Collector-emitter Sustaining Voltage ($I_B = 0$)	$I_C = 100 mA$	325			V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 4 A$ $I_B = 0.8 A$ $I_C = 8 A$ $I_B = 1.6 A$			0.8 1.5	V V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 8 A$ $I_B = 1.6 A$			1.5	V
h_{FE}^*	DC Current Gain	$I_C = 4 A$ $V_{CE} = 4 V$ $I_C = 8 A$ $V_{CE} = 4 V$	15 8		60	
f_T	Transition Frequency	$I_C = 1 A$ $V_{CE} = 15 V$ $f = 10 MHz$	8			MHz
t_{on}	Turn-on Time	$I_C = 8 A$ $I_{B1} = 1.6 A$ $V_{CC} = 150 V$			1.2	μs
t_s	Storage Time	$I_C = 8 A$ $I_{B1} = -I_{B2} = 1.6 A$			2.5	μs
t_f	Fall Time	$V_{CC} = 150 V$			1	μs

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