

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Rating	Symbol	BUX80	Unit
Collector-emitter voltage	V_{CE0}	400	V
Collector-emitter voltage ($V_{BE} = 0$)	V_{CES}	800	V
Emitter-base voltage	V_{EBO}	10	V
Collector current – Continuous	I_C	10	A
–Peak		15	
Base current – continuous	I_B	5.0	A
Total power dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	100	W
		0.8	
Operating and storage temperature range	T_J, T_{stg}	-65 to 150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Maximum	Unit
Thermal resistance, junction to case	$R_{\theta JC}$	1.25	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Characteristics	Symbol	Minimum	Maximum	Unit	
OFF CHARACTERISTICS					
Collector-emitter sustaining voltage ⁽¹⁾ ($I_C = 100\text{mA}$, $I_B = 0$, $L = 25\text{mH}$)	$V_{CE0(sus)}$	400	-	V	
COLLECTOR-CUTOFF CURRENT ($V_{CE} = 800\text{V}$, $V_{BE} = 0$) ($V_{CE} = 800\text{V}$, $V_{BE} = 0$, $T_C = 125^\circ\text{C}$)	I_{CES}	-	1.0	mA	
		-	3.0		
Emitter cutoff current ($V_{EB} = 10\text{V}$, $I_C = 0$)	I_{EBO}	-	10	mA	
ON CHARACTERISTICS					
DC current gain ($I_C = 1.2\text{A}$, $V_{CE} = 5.0\text{V}$)	h_{FE}	30(typ)			
Collector-emitter saturation voltage ($I_C = 5.0\text{A}$, $I_B = 1.0\text{A}$) ($I_C = 8.0\text{A}$, $I_B = 2.5\text{A}$)	$V_{CE(sat)}$	-	1.5	V	
		-	3.0		
Base-emitter saturation voltage ($I_C = 5.0\text{A}$, $I_B = 1.0\text{A}$) ($I_C = 8.0\text{A}$, $I_B = 2.5\text{A}$)	$V_{BE(sat)}$	-	1.4	V	
		-	1.8		
SWITCHING CHARACTERISTICS					
Turn on time	$V_{CC} = 250\text{V}$, $I_C = 5.0\text{A}$, $I_{B1} = 1.0\text{A}$, $I_{B2} = -2.0\text{A}$	t_{on}	-	0.5	μs
Storage time		t_s	-	3.5	μs
Fall time		t_r	-	0.5	μs

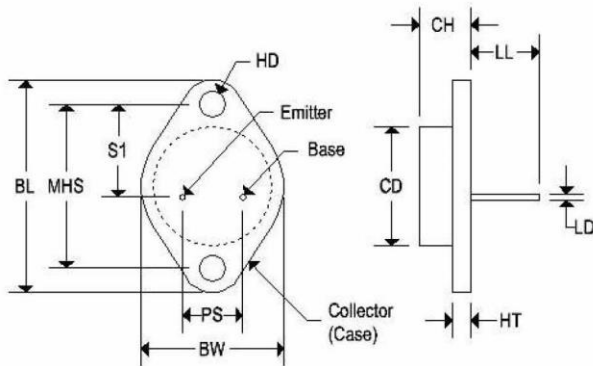
Note 1: Pulse test: pulse width = $300\mu\text{s}$, duty cycle $\leq 2.0\%$.

BUX80

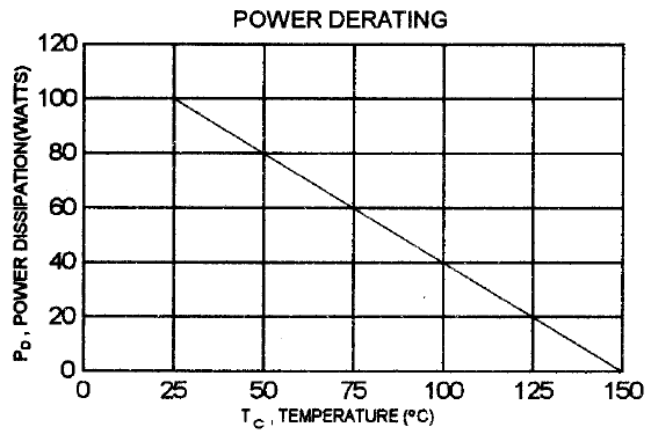
HIGH VOLTAGE NPN TRANSISTOR

MECHANICAL CHARACTERISTICS

Case:	DO-35
Marking:	Body painted, alpha-numeric
Polarity:	Cathode band



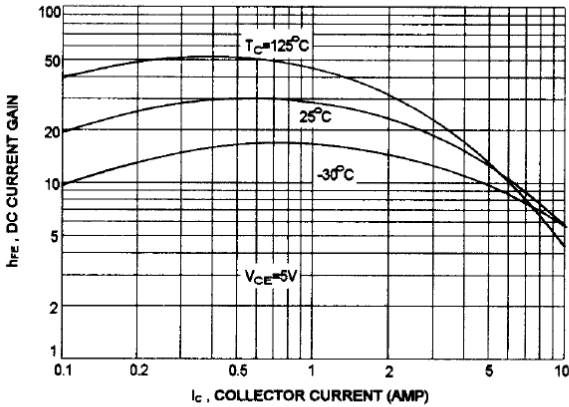
	TO-3			
	Inches		Millimeters	
	Min	Max	Min	Max
CD	-	0.875	-	22.220
CH	0.250	0.380	6.860	9.650
HT	0.060	0.135	1.520	3.430
BW	-	1.050	-	26.670
HD	0.131	0.188	3.330	4.780
LD	0.038	0.043	0.970	1.090
LL	0.312	0.500	7.920	12.700
BL	1.550 REF		39.370 REF	
MHS	1.177	1.197	29.900	30.400
PS	0.420	0.440	10.670	11.180
S1	0.655	0.675	16.640	17.150



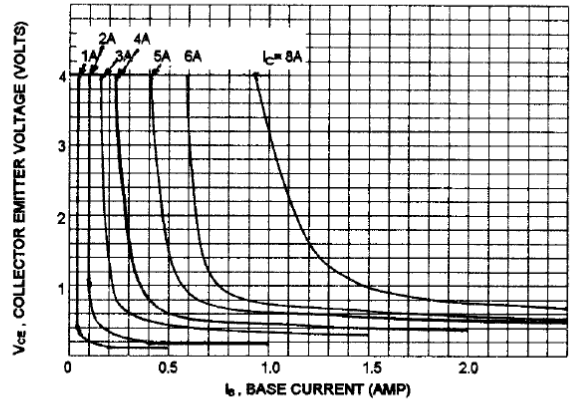
BUX80

HIGH VOLTAGE NPN TRANSISTOR

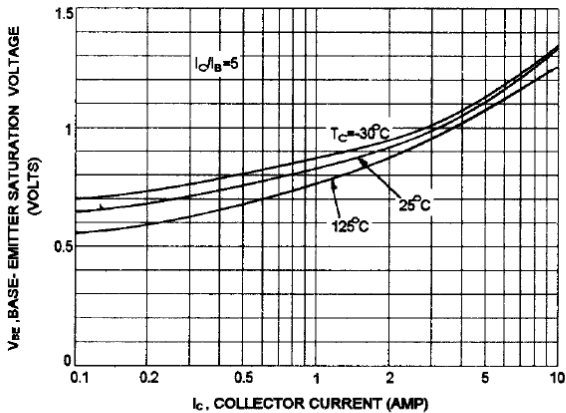
DC CURRENT GAIN



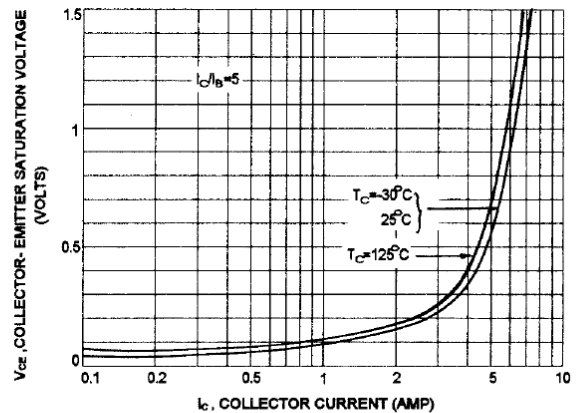
COLLECTOR SATURATION REGION



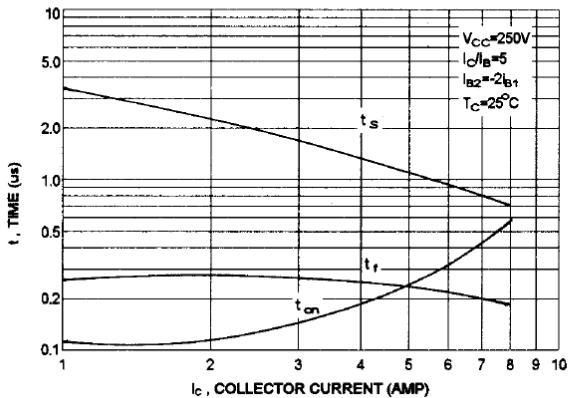
BASE-EMITTER SATURATION VOLTAGE



COLLECTOR-EMITTER SATURATION VOLTAGE



SWITCHING TIME



SAFE OPERATING AREA

