

BUY69A-BUY69C

NPN HIGH VOLTAGE TRANSISTORS

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

Characteristic	Symbol	BUY69A	BUY69B	BUY69C	Unit
Collector-Emitter Voltage ($V_{BE} = 0$)	V_{CES}	1000	800	500	V
Collector-Emitter Voltage	V_{CEO}	400	325	200	V
Emitter-Base Voltage	V_{EBO}	8.0			V
Collector Current – continuous	I_C	10			A
Peak	I_{CM}	15			A
Base Current - Peak	I_{BM}	3.0			A
Total Power Dissipation @ $T_C = 25^\circ\text{C}$	P_D	100			W
Derate above 25°C		0.57			W/ $^\circ\text{C}$
Junction and Storage Temperature Range	T_J, T_{stg}	-65 to +200			$^\circ\text{C}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.75			$^\circ\text{C}/\text{W}$

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

Characteristic		Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Collector-Emitter Breakdown Voltage ⁽¹⁾ (I _B = 0, I _C = 100mA, L = 25mH)	BUY69A BUY69B BUY69C	V _{CEO(sus)}	400 325 200	- - -	- - -	V
Collector-Base Voltage (I _C = 1.0mA, I _E = 0)	BUY69A BUY69B BUY69C	V _{CBO}	1000 800 500	- - -	- - -	V
Collector Cutoff Current (V _{CE} = 1000V, V _{BE} = 0) (V _{CE} = 800V, V _{BE} = 0) (V _{CE} = 500V, V _{BE} = 0)	BUY69A BUY69B BUY69C	I _{CES}	- - -	- - -	1.0 1.0 1.0	mA
Emitter- Base Cutoff Current (V _{EB} = 8.0V, I _C = 0)		I _{EBO}	-	-	1.0	mA
ON CHARACTERISTICS ⁽¹⁾						
DC Current Gain (I _C = 2.5A, V _{CE} = 10)		h _{fe}	15	-	-	-
Collector-Emitter Saturation Voltage (I _C = 8A, I _B = 2.5A)		V _{CE(sat)}	-	-	3.3	V
Base-Emitter Saturation Voltage (I _C = 8.0A, I _B = 2.5A)		V _{B(sat)}	-	-	2.2	V
Current Gain – Bandwidth Product ⁽²⁾ (I _C = 0.5A, V _{CE} = 10V, f _{test} = 1MHz)		f _T	10	-	-	MHz
SWITCHING CHARACTERISTICS						
Rise Time	V _{CC} = 250V, I _C = 5A, I _{B1} = -I _{B2} = 1A		t _r	-	0.3	μs
Storage Time			t _s	-	1.8	
Fall Time			t _f	-	1.0	

Note 1: Pulse test: Pulse width = 300 μs , duty cycle $\leq 2.0\%$.

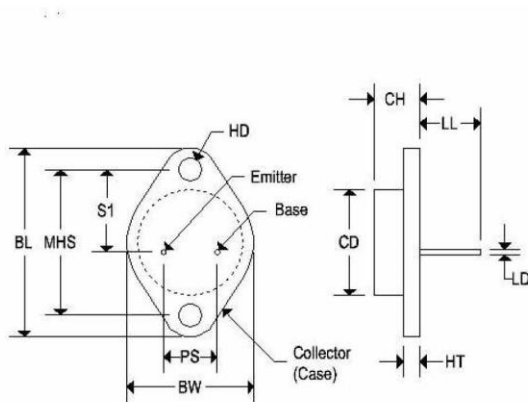
Note 2: $f_T = |h_{fe}| * f_{test}$

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MECHANICAL CHARACTERISTICS

Case:	TO-3
Marking:	Alpha-Numeric
Polarity:	See below



	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

FIGURE -1 POWER DERATING

