

## HIGH VOLTAGE POWER SWITCH

... designed for horizontal deflection output stage of CTV receivers and high voltage, fast switching and industrial application.

### FEATURES

\* Collector-Emitter Sustaining Voltage-100 mA

$V_{CEO(sus)} = 400V$  (Min) BUY69A  
 325V (Min) BUY69B  
 200V (Min) BUY69C

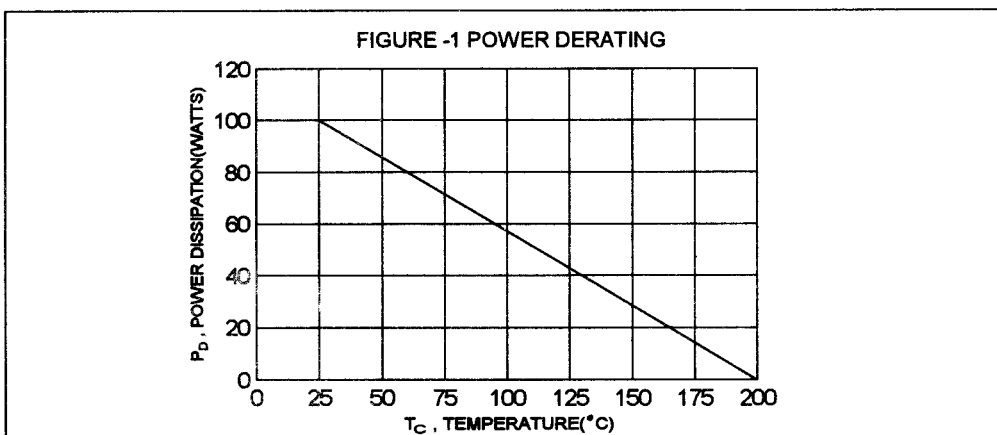
\* Optimum Drive Condition Curves

### MAXIMUM RATINGS

Characteristic	Symbol	BUY69A	BUY69B	BUY69C	Unit
Collector-Emitter Voltage ( $V_{BE}=0$ )	$V_{CBS}$	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			
Base Current-Peak	$I_B$	3.0			A
Total Power Dissipation @ $T_C = 25^\circ C$ Derate above $25^\circ C$	$P_D$	100			W
		0.57			W/ $^\circ C$
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	-65 to +200			$^\circ C$

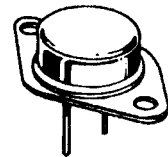
### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	UNIT
Thermal Resistance Junction to Case	$R_{\theta jc}$	1.75	$^\circ C/W$

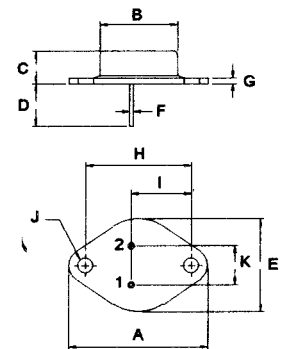


NPN  
**BUY69A**  
**BUY69B**  
**BUY69C**

10 AMPERE  
 SILICON POWER  
 TRANSISTORS  
 200-400 VOLTS  
 100 WATTS



TO-3



PIN 1. BASE  
 2. EMITTER  
 COLLECTOR (CASE)

DIM	MILLIMETERS	
	MIN	MAX
A	38.75	39.96
B	19.28	22.23
C	7.96	9.28
D	11.18	12.19
E	25.20	26.67
F	0.92	1.09
G	1.38	1.62
H	29.90	30.40
I	16.64	17.30
J	3.88	4.36
K	10.67	11.18

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

Characteristic	Symbol	Min	Max	Unit
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**OFF CHARACTERISTICS**

Collector-Emitter Sustaining Voltage(1) ( $I_C = 100\text{ mA}$ , $I_B = 0$ )	BUY69A BUY69B BUY69C	$V_{CEO(sus)}$	400 325 200	V
Collector-Base Voltage ( $I_C = 1.0\text{ mA}$ , $I_E = 0$ )	BUY69A BUY69B BUY69C	$V_{CBO}$	1000 800 500	V
Collector Cutoff Current ( $V_{CE} = 1000\text{ V}$ , $V_{BE} = 0$ ) ( $V_{CE} = 800\text{ V}$ , $V_{BE} = 0$ ) ( $V_{CE} = 500\text{ V}$ , $V_{BE} = 0$ )	BUY69A BUY69B BUY69C	$I_{CES}$		1.0 1.0 1.0 mA
Emitter -Base Cutoff Current ( $V_{EB} = 8.0\text{ V}$ , $I_C = 0$ )		$I_{EBO}$		1.0 mA

**ON CHARACTERISTICS (1)**

DC Current Gain ( $V_{CE} = 10\text{ V}$ , $I_C = 2.5\text{ A}$ )		$h_{FE}$	15	
Collector-Emitter Saturation Voltage ( $I_C = 8.0\text{ A}$ , $I_B = 2.5\text{ A}$ )		$V_{CE(sat)}$		3.3 V
Base-Emitter Saturation Voltage ( $I_C = 8.0\text{ A}$ , $I_B = 2.5\text{ A}$ )		$V_{BE(sat)}$		2.2 V

**DYNAMIC CHARACTERISTICS**

Current Gain-Bandwidth Product (2) ( $I_C = 500\text{ mA}$ , $V_{CE} = 10\text{ V}$ , $f = 1\text{ MHz}$ )		$f_T$	10	MHz
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**SWITCHING CHARACTERISTICS**

Rise Time	$V_{CC} = 250\text{ V}$ , $I_C = 5\text{ A}$ $I_{B1} = -I_{B2} = 1.0\text{ A}$	$t_r$	0.3	us
Storage Time		$t_s$	1.8	us
Fall Time		$t_f$	1.0	us

(1) Pulse Test: Pulse width = 300 us , Duty Cycle  $\leq 2.0\%$

(2)  $f_T = |h_{fe}| \cdot f_{test}$