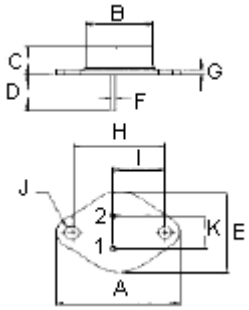
Transistor

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
- $V_{CEO\ (sus)}$ = 400 V (minimum)
- Optimum drive condition curves

TO-3



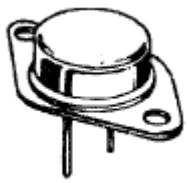
Pin 1. Base
2. Emitter
Collector (Case)

Dimensions	Minimum	Maximum
A	37.75	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	29.9	30.4
I	16.64	17.3
J	3.88	4.36
K	10.67	11.18

Dimensions : Millimetres

NPN
BUY69A

10 A
Silicon Power
Transistors
200 - 400 V
100 W



TO-3

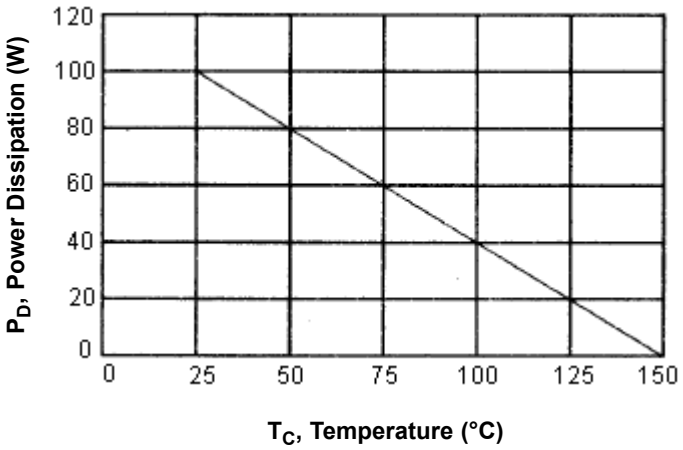
Maximum Ratings

Characteristic	Symbol	BUY69A	Unit
Collector-Emitter Voltage (V_{BE} = 0)	V_{CBS}	1,000	V
Collector-Emitter Voltage	V_{CEO}	400	
Emitter-Base Voltage	V_{EBO}	8	
Collector Current-Continuous-Peak	I_C I_{CM}	10 15	A
Base Current-Peak	I_B	3	
Total Power Dissipation at T_C = 25°C Derate above 25°C	P_D	100 0.57	W W / °C
Operating and Storage Junction Temperature Range	T_J, T_{STG}	65 to +200	°C

Thermal Characteristics

Characteristic	Symbol	Maximum	Unit
Thermal Resistance Junction to Case	Rθjc	1.75	°C / W

Power Derating



Electrical Characteristics (T_C = 25°C unless otherwise noted)

Characteristic		Symbol	Minimum	Maximum	Unit
Off Characteristics					
Collector-Emitter Sustaining Voltage (1) (I_C = 100 mA, I_B = 0)	**BUY69A**	$V_{CEO\ (sus)}$	400	-	V
Collector-Base Voltage (I_C = 1 mA, I_E = 0)	**BUY69A**	V_{CBO}	1,000	-	
Collector Cut off Current (V_{CE} = 1,000 V, V_{BE} = 0)	**BUY69A**	I_{CES}	-	1	mA
Emitter-Base Cut off Current (V_{EB} = 8 V, I_C = 0)		I_{EBO}	-		
On Characteristics (1)					
DC Current Gain (V_{CE} = 10 V, I_C = 2.5 A)		h_{FE}	15	-	-
Collector-Emitter Saturation Voltage (I_C = 8 A, I_B = 2.5 A)		$V_{CE\ (sat)}$	-	3.3	V
Base-Emitter Saturation (I_C = 8 A, I_B = 2.5 A)		$V_{BE\ (sat)}$	-	2.2	
Dynamic Characteristics					
Current Gain-Bandwidth Product (2) (I_C = 500 mA, V_{CE} = 10 V, f = 1 MHz)		f_T	10	-	MHz

Switching Characteristics					
Rise Time	V_{CC} = 250 V, I_C = 5 A	t_r	-	0.3	µs
Storage Time	I_{B1} = -I_{B2} = 1 A	t_s	-	1.8	
Fall Time	-	t_f	-	1	

(1) Pulse Test : Pulse Width = 300 µs, Duty Cycle ≤2%
(2) $f_T = |hfe| \bullet f_{test}$

Part Number Table

Description	Part Number
Transistor, NPN, TO-3	BUY69A