MOSPEC

SWITCHMODE SERIES NPN POWER TRANSISTORS

... designed for use in high-voltage,high-speed,power switching in inductive circuit, they are particularly suited for 220 V switchmode power supply,DC motor control.

NPN
BUV46
BUV46A

6 AMPERE POWER TRANASISTORS 400-450 VOLTS 70 WATTS

FEATURES:

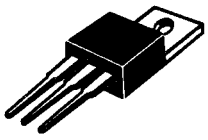
*Collector-Emitter Sustaining Voltage-

$V_{CEO(SUS)}$ = 400 V (Min) BUV46
= 450 V (Min) BUV46A

* Collector-Emitter Saturation Voltage -

$V_{CE(sat)}$ =1.5 V (Max.) @ I_C = 2.5 A / 2.0A, I_B = 0.5 A / 0.4A

* Switching Time - t_f = 0.8 us (Max.) @ I_C =2.5A/2.0A



TO-220

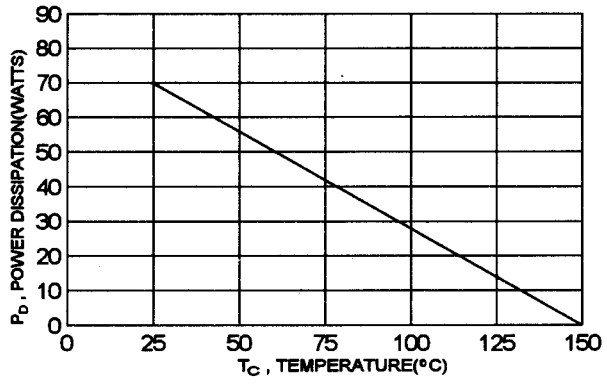
MAXIMUM RATINGS

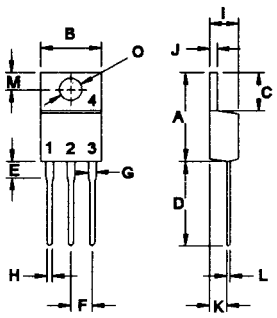
Characteristic	Symbol	BUV46	BUV46A	Unit
Collector-Emitter Voltage	V_{CEO}	400	450	V
Collector-Emitter Voltage	V_{CEX}	850	1000	V
Emitter-Base Voltage	V_{EBO}	7.0		V
Collector Current - Continuous - Peak	I_C I_{CM}	6.0 8.0		A
Base current	I_B	2.0		A
Total Power Dissipation @T_C = 25°C Derate above 25°C	P_D	70 0.56		W W/°C
Operating and Storage Junction Temperature Range	T_J , T_{STG}	-65 to +150		°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	Rθjc	1.78	°C/W

FIGURE -1 POWER DERATING





PIN 1.BASE
2.COLLECTOR
3.EMITTER
4.COLLECTOR(CASE)

DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.31
B	9.78	10.42
C	5.01	6.52
D	13.06	14.62
E	3.57	4.07
F	2.42	3.66
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.38
K	2.20	2.97
L	0.33	0.55
M	2.48	2.98
O	3.70	3.90

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

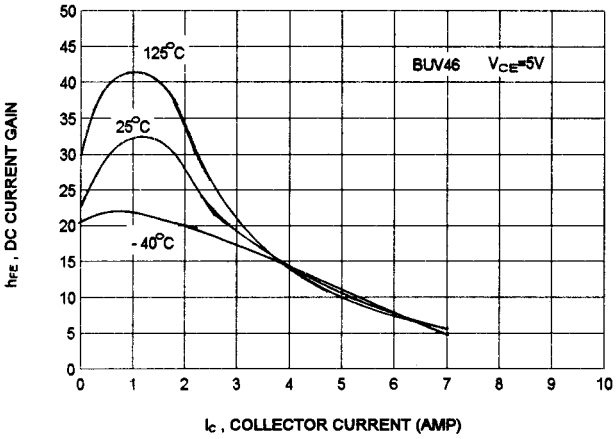
Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Sustaining Voltage (I_C= 0.2 A, I_B= 0, L=25 mH)	BUV46 BUV46A	$V_{CEO(sus)}$	400 450		V
Collector Cutoff Current (V_{CE}= 850 V, R_{BE} ≦ 10 ohm) (V_{CE}= 1000 V, R_{BE} ≦ 10 ohm)	BUV46 BUV46A	I_{CER}		300 300	uA
Collector Cutoff Current (V_{CE}= 850 V, V_{BE}=-2.5 V) (V_{CE}= 1000 V, V_{BE}=-2.5 V)	BUV46 BUV46A	I_{CEX}		100 100	uA
Emitter Cutoff Current (V_{EB}=7.0 V, I_C= 0)		I_{EBO}		1.0	mA
ON CHARACTERISTICS (1)					
Collector-Emitter Saturation Voltage (I_C= 2.5 A, I_B= 0.5 A) (I_C= 2.0 A, I_B= 0.4 A) (I_C= 3.5 A, I_B= 0.7 A) (I_C= 3.0 A, I_B= 0.6 A)	 BUV46 BUV46A BUV46 BUV46A	$V_{CE(sat)}$		 1.5 1.5 5.0 5.0	V
Base-Emitter Saturation Voltage (I_C= 2.5 A, I_B= 0.5 A) (I_C= 2.0 A, I_B= 0.4 A)	 BUV46 BUV46A	$V_{BE(sat)}$		 1.3 1.3	V

SWITCHING CHARACTERISTICS

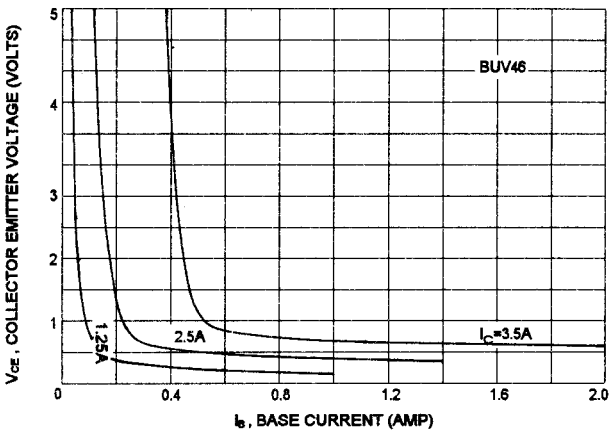
On Time	V_{CC}= 150V	I_C=2.5A, I_{B1}=-I_{B2}= 0.5A BUV46 I_C=2.0A, I_{B1}=-I_{B2}= 0.4A BUV46A	t_{on}		1.0	us
Storage Time			t_s		3.0	us
Fall Time			t_f		0.8	us

(1) Pulse Test: Pulse Width =300 us, Duty Cycle ≦ 2.0%

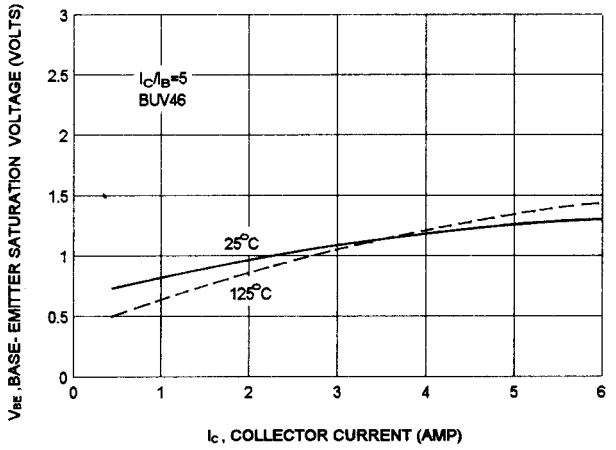
DC CURRENT GAIN



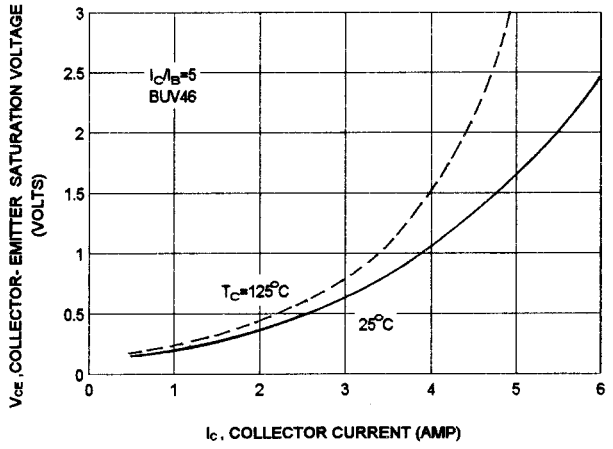
COLLECTOR SATURATION REGION



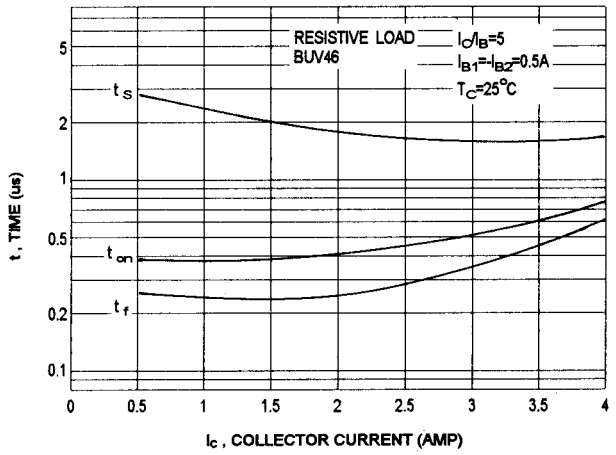
BASE-EMITTER SATURATION VOLTAGE



COLLECTOR-EMITTER SATURATION VOLTAGE



SWITCHING TIME



ACTIVE-REGION SAFE OPERATING AREA