MOSPEC

SWITCHMODE SERIES NPN POWER TRANSISTORS

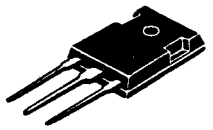
... designed for use in high-voltage,high-speed,power switching in inductive circuit, they are particularly suited for 220 V switchmode power supply,DC and AC motor control.

FEATURES:

*Collector-Emitter Sustaining Voltage-
$V_{CEO(SUS)}$ = 400 V (Min)
* Collector-Emitter Saturation Voltage -
$V_{CE(sat)}$ =1.5 V (Max.) @ I_C = 5.0 A, I_B = 1.0 A
* Switching Time - t_f = 0.8 us (Max.) @ I_C =5.0 A

NPN
BUV47
BUV47B

9 AMPERE
POWER
TRANASISTORS
400 VOLTS
90 WATTS



TO-247(3P)

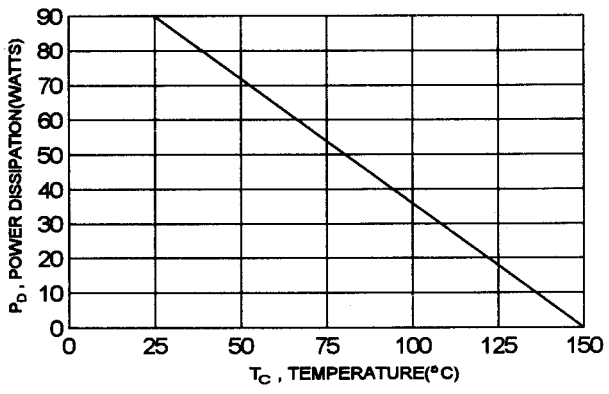
MAXIMUM RATINGS

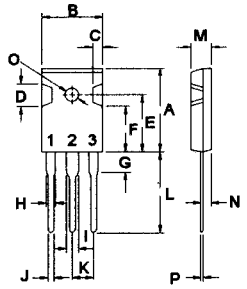
Characteristic	Symbol	BUV47,BUV47B	Unit
Collector-Emitter Voltage	V_{CEO}	400	V
Collector-Base Voltage	V_{CBO}	850	V
Emitter-Base Voltage	V_{EBO}	7.0	V
Collector Current - Continuous - Peak	I_C I_{CM}	9.0 15	A
Base current	I_B	3.0	A
Total Power Dissipation @T_C = 25°C Derate above 25°C	P_D	90 0.72	W 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	1.38	°C/W

FIGURE -1 POWER DERATING





PIN 1.BASE
2.COLLECTOR
3.EMITTER

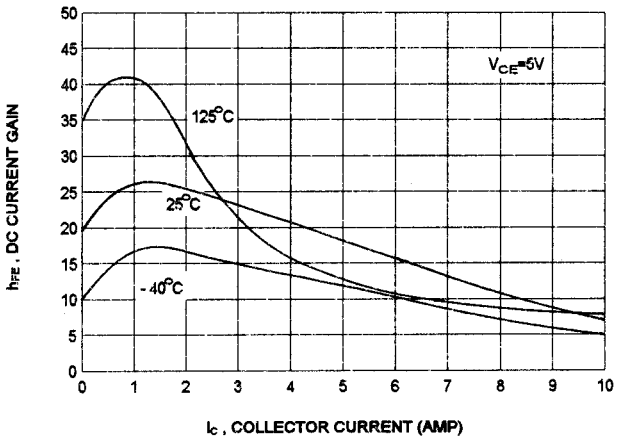
DIM	MILLIMETERS	
	MIN	MAX
A	20.63	22.38
B	15.38	16.20
C	1.90	2.70
D	5.10	6.10
E	14.81	15.22
F	11.72	12.84
G	4.20	4.50
H	1.82	2.46
I	2.92	3.23
J	0.89	1.53
K	5.26	5.66
L	18.50	21.50
M	4.68	5.36
N	2.40	2.80
O	3.25	3.65
P	0.55	0.70

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

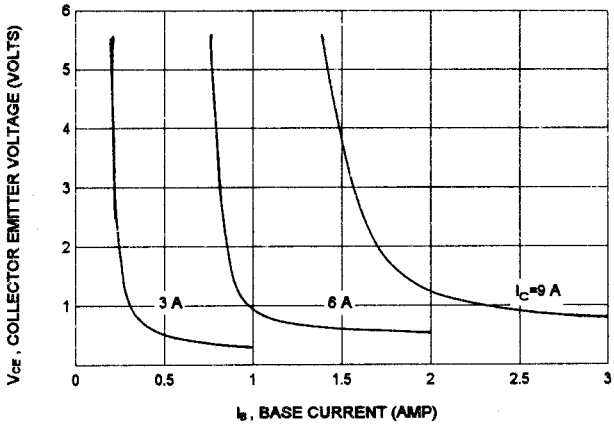
Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Sustaining Voltage (I_C= 0.2 A, I_B= 0, L=25 mH)		$V_{CEO(sus)}$	400		V
Collector Cutoff Current (V_{CE}= 850 V, R_{BE} = 10 ohm)		I_{CER}		400	uA
Collector Cutoff Current (V_{CE}= 850 V, V_{BE}=-2.5 V)		I_{CEX}		150	uA
Emitter Cutoff Current (V_{EB}=5.0 V, I_C= 0)		I_{EBO}		1.0	mA
ON CHARACTERISTICS (1)					
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$			V
(I_C=5.0 A, I_B= 1.0 A)	BUV47			1.5	
(I_C= 6.0 A, I_B=1.2 A)	BUV47B			1.5	
(I_C= 8.0 A, I_B= 2.5 A)	BUV47			3.0	
(I_C= 9.0 A, I_B= 3.0 A)	BUV47B			3.0	
Base-Emitter Saturation Voltage		$V_{BE(sat)}$			V
(I_C= 5.0 A, I_B= 1.0 A)	BUV47			1.6	
(I_C= 6.0 A, I_B= 1.2 A)	BUV47B			1.6	
SWITCHING CHARACTERISTICS					
On Time	V_{CC}= 150V,I_C= 5.0A	t_{on}		1.0	us
Storage Time	I_{B1}=-I_{B2}= 1.0A	t_s		3.0	us
Fall Time		t_f		0.8	us

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

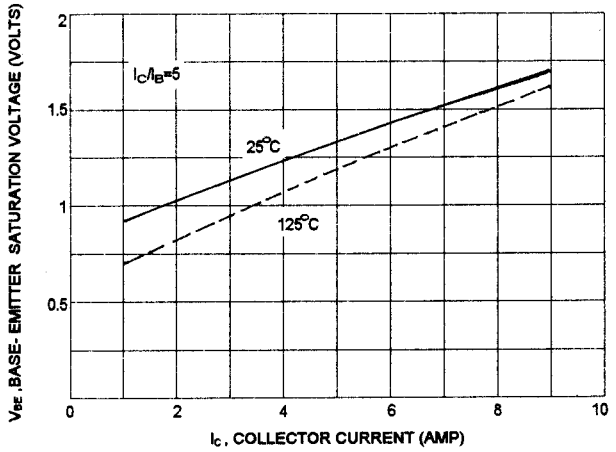
DC CURRENT GAIN



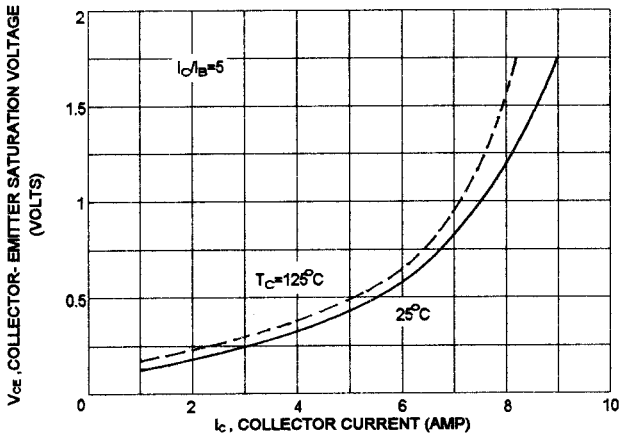
COLLECTOR SATURATION REGION



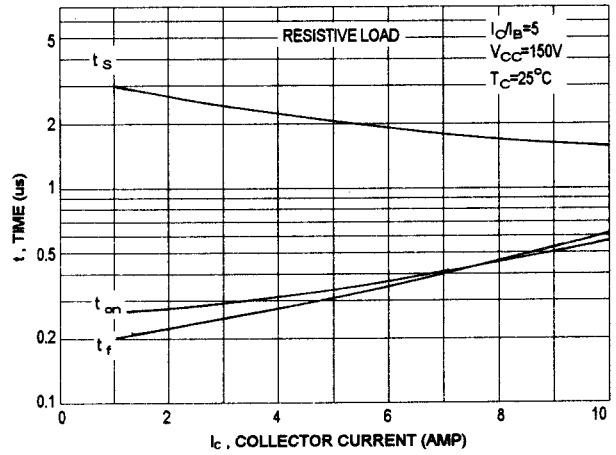
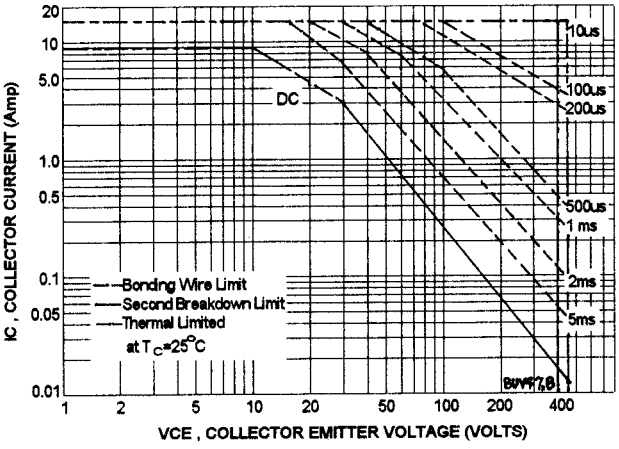
BASE-EMITTER SATURATION VOLTAGE



COLLECTOR-EMITTER SATURATION VOLTAGE



SWITCHING TIME



ACTIVE-REGION SAFE OPERATING AREA