MOSPEC

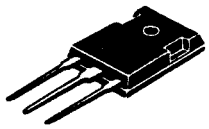
NPN SILICON POWER TRANSISTORS

... designed for use in general purpose power amplifier application

FEATURES:
* Very Low Saturation Voltage and High Gain for reduced load Operation.
* Faster Switchingent Times
* Lower Switching Losses
* Lower On State Voltage Drop

NPN
BUW50

25 AMPERE
POWER
TRANASISTORS
125 VOLTS
150 WATTS



TO-247(3P)

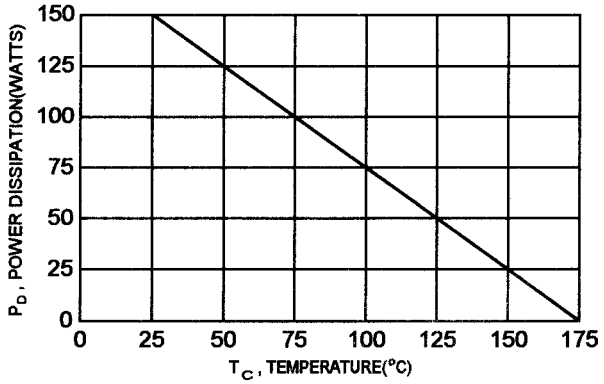
MAXIMUM RATINGS

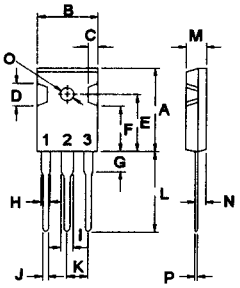
Characteristic	Symbol	BUW50	Unit
Collector-Emitter Voltage	V_{CEO}	125	V
Collector-Emitter Voltage V_{BE}=-1.5V	V_{CEV}	250	V
Emitter-Base Voltage	V_{EBO}	7.0	V
Collector Current - Continuous - Peak	I_C I_{CM}	25 50	A
Total Power Dissipation @T_C = 25°C Derate above 25°C	P_D	150 1.0	W W/°C
Operating and Storage Junction Temperature Range	T_J , T_{STG}	-65 to +175	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	Rθjc	1.0	°C/W

FIGURE -1 POWER DERATING





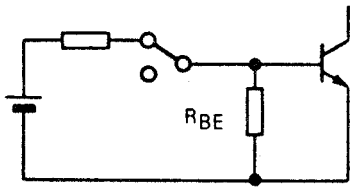
PIN 1.BASE
2.COLLECTOR
3.EMITTER

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

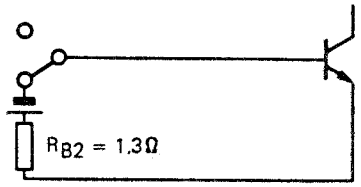
ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Sustaining Voltage (1) (I_C= 0.2 A, I_B= 0 , L= 25 mH)	$V_{CEO(SUS)}$	125		V
Emitter-Base Voltage (I_E= 20mA, I_C= 0)	V_{EBO}	7.0		V
Collector Cutoff Current (V_{CE}= 250 V, V_{BE}= -1.5 V)	I_{CEV}		100	uA
Emitter Cutoff Current (V_{EB}= 5.0 V, I_C= 0)	I_{EBO}		1.0	mA
ON CHARACTERISTICS (1)				
Collector-Emitter Saturation Voltage (I_C= 10 A, I_B= 0.5 A) (I_C= 20 A, I_B= 2.0 A)	$V_{CE(sat)}$		0.9 1.0	V
Base-Emitter Saturation Voltage (I_C= 20 A, I_B= 2.0 A)	$V_{BE(sat)}$		1.6	V
SWITCHING CHARATERISTICS				
Turn-on Time	V_{CC}= 60V, I_C= 10A	t_{on}	1.9	us
Storage Time	I_{B1}= 1.0A	t_s	1.5	us
Fall Time	PW= 20 us	t_f	0.5	us

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

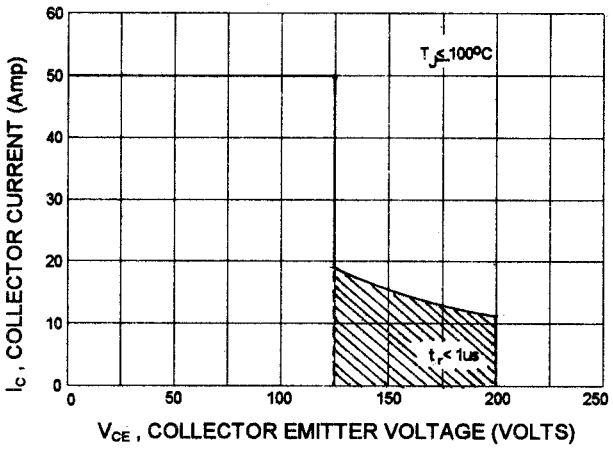


TRANSISTOR FORWARD BIASED
-During the turn-on
-During the turn-off without negative base-emitter voltage
and $4.7\Omega \leq R_{BE} \leq 50\Omega$

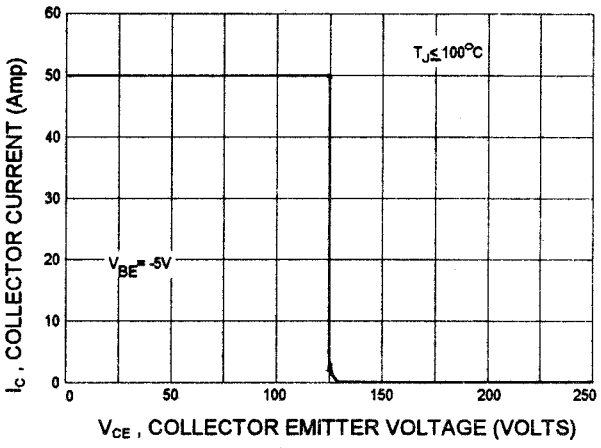


TRANSISTOR FORWARD BIASED
-During the turn-off without negative base-emitter voltage

FORWARD BIASED SAFE OPERATING AREA



REVERSE BIASED SAFE OPERATING AREA



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