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HIGH-POWER PNP SILICON TRANSISTORS

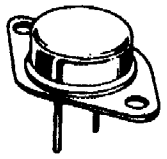
... designed for use in industrial power amplifiers and switching circuit applications.

FEATURES:

* High DC Current Gain
  hFE=20-80 @ I_C =10A
  =12 (Min)@I_C=25A
* Low Collector-Emitter Saturation Voltage
  $V_{CE(SAT)}$ = 1.0V (Max.) @ I_C = 10 A, I_B = 1.0A
* Complement to 2N6338 thru 2N6340

PNP
2N6436
2N6437
2N6438

25 AMPERE
POWER TRANSISTOR
PNP SILICON
80-120 VOLTS
200 WATTS



TO-3

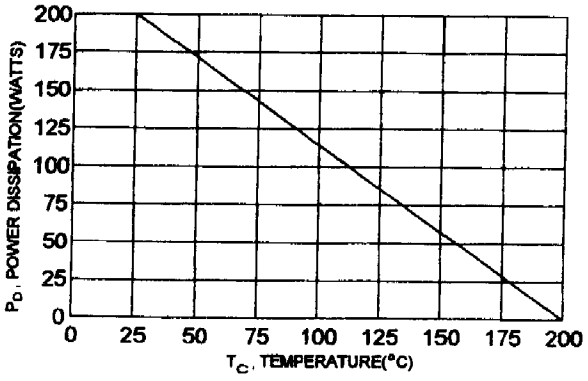
MAXIMUM RATINGS

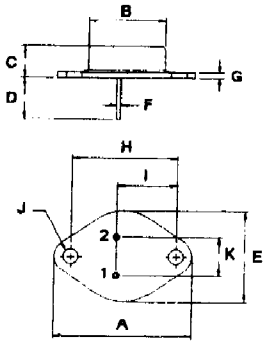
Characteristic	Symbol	2N6436	2N6437	2N6438	Unit
Collector-Emitter Voltage	V_{CEO}	80	100	120	V
Collector-Base Voltage	V_{CBO}	100	120	140	V
Emitter-Base Voltage	V_{EBO}	6.0			V
Collector Current-Continuous -Peak	I_C	25 50			A
Base Current	I_B	10			A
Total Power Dissipation @T_C=25°C Derate above 25°C	P_D	200 1.14			W W/°C
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +200			°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	Rθjc	0.875	°C/W

FIGURE -1 POWER DERATING





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°C unless otherwise noted)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector -Emitter Sustaining Voltage (1) (I_C =50 mA, I_B= 0)	2N6436 2N6437 2N6438	$V_{CEO(sus)}$	80 100 120		V
Collector Cutoff Current (V_{CE}= 40 V, I_B= 0) (V_{CE}= 50 V, I_B= 0) (V_{CE}= 60 V, I_B= 0)	2N6436 2N6437 2N6438	I_{CEO}		50 50 50	uA
Collector Cutoff Current (V_{CB}= Rated V_{CB}, I_E= 0)		I_{CBO}		10	uA
Emitter Cutoff Current (V_{EB}= 6.0 V, I_C= 0)		I_{EBO}		100	uA
ON CHARACTERISTICS (1)					
DC Current Gain (I_C= 0.5 A, V_{CE}= 2.0V) (I_C= 10 A, V_{CE}= 2.0V) (Ic= 25 A, V_{CE}= 2.0V)		hFE	30 20 12	80	
Collector-Emitter Saturation Voltage (I_C =10 A, I_B=1.0A) (I_C= 25 A, I_B= 2.5A)		$V_{CE(sat)}$		1.0 1.8	V
Base-Emitter Saturation Voltage (I_C= 10 A, I_B= 1.0A) (I_C= 25 A, I_B= 2.5A)		$V_{BE(sat)}$		1.8 2.5	V
DYNAMIC CHARATERISTICS					
Current-Gain Bandwidth Product (2) (I_C= 1.0 A,V_{CE}= 10 V, f= 10MHz)		f_T	40		MHz
Output Capacitance (V_{CB}= 10 V, I_E= 0, f= 0.1MHz)		C_{ob}		700	pF
SWITCHING CHARACTERISTICS					
Rise Time	V_{CC}= 80 V, I_C= 10 A I_{B1}= -I_{B2}= 1.0 A, $V_{BE(off)}$= 6.0 V	t_r		0.3	us
Storage Time		t_s		2.0	us
Fall Time		t_f		0.4	us

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

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