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

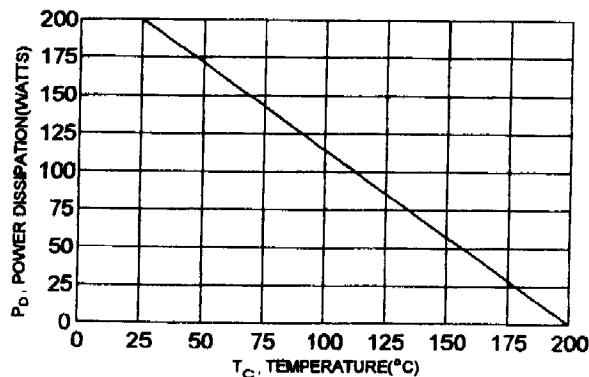
MAXIMUM RATINGS

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 @ $T_C = 25^\circ C$ Derate above $25^\circ C$	P_D	200 1.14			W W/ $^\circ C$
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +200			$^\circ C$

THERMAL CHARACTERISTICS

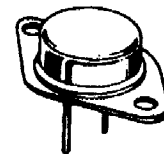
Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	$R_{\theta jc}$	0.875	$^\circ C/W$

FIGURE -1 POWER DERATING

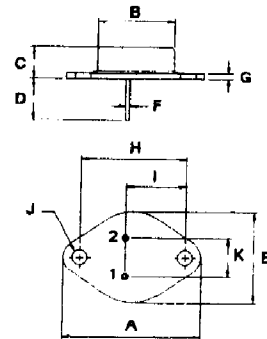


PNP
2N6436
2N6437
2N6438

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



TO-3



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	16.84	17.30
J	3.88	4.36
K	10.87	11.18

2N6436, 2N6437, 2N6438 PNP

ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector -Emitter Sustaining Voltage (1) ($I_c = 50 \text{ mA}, I_B = 0$)	$V_{CE(sus)}$	80 100 120		V
Collector Cutoff Current ($V_{CE} = 40 \text{ V}, I_B = 0$) ($V_{CE} = 50 \text{ V}, I_B = 0$) ($V_{CE} = 60 \text{ V}, I_B = 0$)	I_{CEO}		50 50 50	μA
Collector Cutoff Current ($V_{CB} = \text{Rated } V_{CB}, I_E = 0$)	I_{CBO}		10	μA
Emitter Cutoff Current ($V_{EB} = 6.0 \text{ V}, I_C = 0$)	I_{EBO}		100	μA

ON CHARACTERISTICS (1)

DC Current Gain ($I_C = 0.5 \text{ A}, V_{CE} = 2.0\text{V}$) ($I_C = 10 \text{ A}, V_{CE} = 2.0\text{V}$) ($I_C = 25 \text{ A}, V_{CE} = 2.0\text{V}$)	h_{FE}	30 20 12	80	
Collector-Emitter Saturation Voltage ($I_C = 10 \text{ A}, I_B = 1.0\text{A}$) ($I_C = 25 \text{ A}, I_B = 2.5\text{A}$)	$V_{CE(sat)}$		1.0 1.8	V
Base-Emitter Saturation Voltage ($I_C = 10 \text{ A}, I_B = 1.0\text{A}$) ($I_C = 25 \text{ A}, I_B = 2.5\text{A}$)	$V_{BE(sat)}$		1.8 2.5	V

DYNAMIC CHARACTERISTICS

Current-Gain Bandwidth Product (2) ($I_C = 1.0 \text{ A}, V_{CE} = 10 \text{ V}, f = 10\text{MHz}$)	f_T	40		MHz
Output Capacitance ($V_{CB} = 10 \text{ V}, I_E = 0, f = 0.1\text{MHz}$)	C_{ob}		700	pF

SWITCHING CHARACTERISTICS

Rise Time	$V_{CC} = 80 \text{ V}, I_C = 10 \text{ A}$ $I_{B1} = -I_{B2} = 1.0 \text{ A},$ $V_{BE(om)} = 6.0 \text{ V}$	t_r	0.3	μs
Storage Time		t_s	2.0	μs
Fall Time		t_f	0.4	μs

(1) Pulse Test: Pulse width = 300 μs , Duty Cycle $\leq 2.0\%$

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