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COMPLEMENTARY SILICON PLASTIC POWER TRANSISTORS

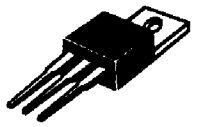
... designed for use in power amplifier and switching circuit applications

FEATURES:

* Collector-Emitter Sustaining Voltage-
  $V_{CEO(SUS)}$ = 45 V (Min) - 2N6121, 2N6124
  = 60 V (Min) - 2N6122, 2N6125
  = 80 V (Min) - 2N6123, 2N6126
* Collector-Emitter Saturation Voltage
  $V_{CE(sat)}$ = 0.6V (Max.) @ I_C = 1.5 A, I_B = 0.15 A

NPN	PNP
2N6121	2N6124
2N6122	2N6125
2N6123	2N6126

4 AMPERE COMPLEMENTARY SILICON POWER TRANSISTORS 45-80 Volts 40 Watts



TO-220

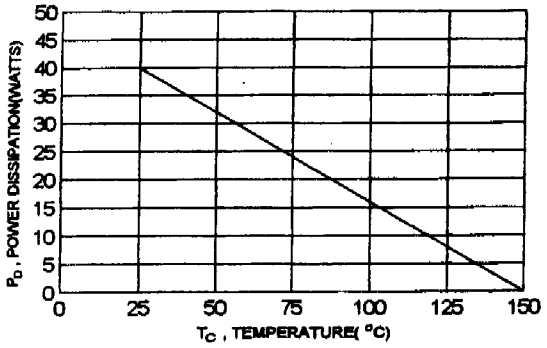
MAXIMUM RATINGS

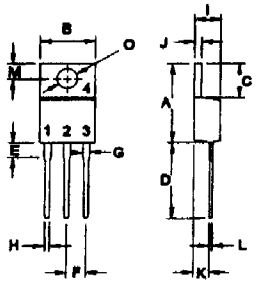
Characteristic	Symbol	2N6121 2N6124	2N6122 2N6125	2N6123 2N6126	Unit
Collector-Emitter Voltage	V_{CEO}	45	60	80	V
Collector-Base Voltage	V_{CBO}	45	60	80	V
Emitter-Base Voltage	V_{EBO}	5.0			V
Collector Current - Continuous - Peak	I_C	4.0 8.0			A
Base Current	I_B	1.0			A
Total Power Dissipation@T_C = 25°C Derate above 25°C	P_D	40 0.32			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	3.125	°C/W

FIGURE -1 POWER DERATING





PIN 1.BASE
2.COLLECTOR
3.EMITTER
4.COLLECTO(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 (1) (I_C = 100 mA, I_B = 0)	2N6121, 2N6124 2N6122, 2N6125 2N6123, 2N6126	$V_{CEO(SUS)}$	45 60 80		V
Collector Cutoff Current (V_{CE} = 45 V, I_B = 0) (V_{CE} = 60 V, I_B = 0) (V_{CE} = 80 V, I_B = 0)	 2N6121, 2N6124 2N6122, 2N6125 2N6123, 2N6126	I_{CEO}		 1.0 1.0 1.0	mA
Collector Cutoff Current (V_{CE} = 45 V, $V_{BE(off)}$ = 1.5 V) (V_{CE} = 60 V, $V_{BE(off)}$ = 1.5 V) (V_{CE} = 80 V, $V_{BE(off)}$ = 1.5 V) (V_{CE} = 45 V, $V_{BE(off)}$ = 1.5 V, T_C = 125°C) (V_{CE} = 60 V, $V_{BE(off)}$ = 1.5 V, T_C = 125°C) (V_{CE} = 80 V, $V_{BE(off)}$ = 1.5 V, T_C = 125°C)	 2N6121, 2N6124 2N6122, 2N6125 2N6123, 2N6126 2N6121, 2N6124 2N6122, 2N6125 2N6123, 2N6126	I_{CEX}		 0.1 0.1 0.1 2.0 2.0 2.0	mA
Emitter Cutoff Current (V_{EB} = 5.0 V , I_C = 0)		I_{EBO}		1.0	mA
ON CHARACTERISTICS (1)					
DC Current Gain (I_C = 1.5 A, V_{CE} = 2.0 V) (I_C = 4.0 A, V_{CE} = 2.0 V)	 2N6121, 2N6124 2N6122, 2N6125 2N6123, 2N6126 2N6121, 2N6124 2N6122, 2N6125 2N6123, 2N6126	hFE	 25 25 20 10 10 7.0	 100 100 80	
Collector-Emitter Saturation Voltage (I_C = 1.5 A, I_B = 0.15 A) (I_C = 4.0 A, I_B = 1.0 A)		$V_{CE(sat)}$		0.6 1.4	V
Base-Emitter On Voltage (I_C = 1.5 A, V_{CE} = 2.0 V)		$V_{BE(on)}$		1.2	V
DYNAMIC CHARACTERISTICS					
Current-Gain-Bandwidth Product (2) (I_C = 1.0 A, V_{CE} = 4.0 V, f = 1.0 MHz)		f_T	2.5		MHz
Small-Signal Current Gain (I_C = 0.1 A, V_{CE} = 2.0 V, f = 1.0 KHZ)		h_{fe}	25		

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

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