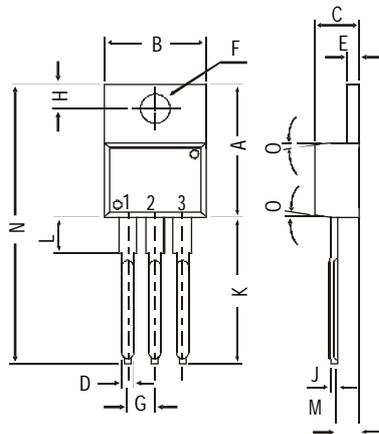
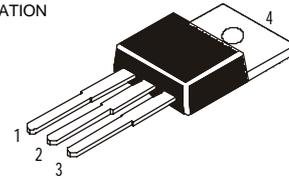


**TO-220 Plastic Package**

**2N6121, 2N6122, 2N6123  
2N6124, 2N6125, 2N6126**

*2N6121, 6122, 6123 NPN PLASTIC POWER TRANSISTORS  
2N6124, 6125, 6126 PNP PLASTIC POWER TRANSISTORS  
Medium Power Linear and Switching Applications*

PIN CONFIGURATION  
1. BASE  
2. COLLECTOR  
3. EMITTER  
4. COLLECTOR



All dimensions in mm.

DIM	MIN.	MAX.
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D		0.90
E	1.15	1.40
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J		0.56
K	12.70	14.73
L	2.80	4.07
M	2.03	2.92
N		31.24
O		DEG 7

**ABSOLUTE MAXIMUM RATINGS**

		<b>6121</b>	<b>6122</b>	<b>6123</b>	
		<b>6124</b>	<b>6125</b>	<b>6126</b>	
Collector-base voltage (open emitter)	$V_{CB0}$ max.	45	60	80	V
Collector-emitter voltage (open base)	$V_{CEO}$ max.	45	60	80	V
Collector current	$I_C$ max.		4.0		A
Total power dissipation up to $T_C = 25^\circ C$	$P_{tot}$ max.		40		W
Junction temperature	$T_j$ max.		150		$^\circ C$
Collector-emitter saturation voltage $I_C = 1.5 A; I_B = 0.15 A$	$V_{CEsat}$ max.		0.6		V
D.C. current gain $I_C = 1.5 A; V_{CE} = 2 V$	$h_{FE}$ min.	25	25	20	
		max.	100	100	80

**RATINGS** (at  $T_A=25^\circ C$  unless otherwise specified)

		<b>6121</b>	<b>6122</b>	<b>6123</b>	
		<b>6124</b>	<b>6125</b>	<b>6126</b>	
Limiting values					
Collector-base voltage (open emitter)	$V_{CB0}$ max.	45	60	80	V
Collector-emitter voltage (open base)	$V_{CEO}$ max.	45	60	80	V
Emitter-base voltage (open collector)	$V_{EBO}$ max.		5.0		V

**2N6121, 2N6122, 2N6123  
2N6124, 2N6125, 2N6126**

Collector current	$I_C$	max.	4.0	A
Collector current (Peak)	$I_{CM}$	max.	7.0	A
Base current	$I_B$	max.	1.0	A
Total power dissipation up to $T_C = 25^\circ\text{C}$	$P_{tot}$	max.	40	W
Derate above $25^\circ\text{C}$		max.	320	mW/°C
Junction temperature	$T_j$	max.	150	°C
Storage temperature	$T_{stg}$		-65 to +150	°C

**THERMAL RESISTANCE**

From junction to case	$R_{thj-c}$		3.12	°C/W
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**CHARACTERISTICS**

$T_{amb} = 25^\circ\text{C}$  unless otherwise specified

			<b>6121</b>	<b>6122</b>	<b>6123</b>	<b>6124</b>	<b>6125</b>	<b>6126</b>
Collector cutoff current								
$I_B = 0; V_{CE} = 45\text{ V}$	$I_{CEO}$	max.	1.0	-	-	-	-	mA
$I_B = 0; V_{CE} = 60\text{ V}$	$I_{CEO}$	max.	-	1.0	-	-	-	mA
$I_B = 0; V_{CE} = 80\text{ V}$	$I_{CEO}$	max.	-	-	1.0	-	-	mA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 45\text{ V}$	$I_{CEX}$	max.	0.1	-	-	-	-	mA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 60\text{ V}$	$I_{CEX}$	max.	-	0.1	-	-	-	mA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 85\text{ V}$	$I_{CEX}$	max.	-	-	0.1	-	-	mA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 45\text{ V}; T_C = 125^\circ\text{C}$	$I_{CEXmax.}$		2.0	-	-	-	-	mA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 60\text{ V}; T_C = 125^\circ\text{C}$	$I_{CEXmax.}$		-	2.0	-	-	-	mA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 80\text{ V}; T_C = 125^\circ\text{C}$	$I_{CEXmax.}$		-	-	2.0	-	-	mA
mA								
$I_E = 0; V_{CB} = 45\text{ V}$	$I_{CBO}$	max.	0.1	-	-	-	-	mA
$I_E = 0; V_{CB} = 60\text{ V}$	$I_{CBO}$	max.	-	0.1	-	-	-	mA
$I_E = 0; V_{CB} = 80\text{ V}$	$I_{CBO}$	max.	-	-	0.1	-	-	mA
Emitter cut-off current								
$I_C = 0; V_{EB} = 5\text{ V}$	$I_{EBO}$	max.	1.0					mA
Breakdown voltages								
$I_C = 100\text{ mA}; I_B = 0$	$V_{CEO(sus)}^*$	min.	45	60	80			V
$I_C = 1\text{ mA}; I_E = 0$	$V_{CBO}$	min.	45	60	80			V
$I_E = 1\text{ mA}; I_C = 0$	$V_{EBO}$	min.		5.0				V
Saturation voltages								
$I_C = 1.5\text{ A}; I_B = 0.15\text{ A}$	$V_{CEsat}^*$	max.	0.6					V
$I_C = 4\text{ A}; I_B = 1.0\text{ A}$	$V_{CEsat}^*$	max.	1.4					V
Base-emitter on voltage								
$I_C = 1.5\text{ A}; V_{CE} = 2\text{ V}$	$V_{BE(on)}^*$	max.	1.2					V
D.C. current gain								
$I_C = 1.5\text{ A}; V_{CE} = 2\text{ V}$	$h_{FE}^*$	min.	25	25	20			
		max.	100	100	80			
$I_C = 4\text{ A}; V_{CE} = 2\text{ V}$	$h_{FE}^*$	min.	10	10	7.0			
Small signal current								
$I_C = 0.1\text{ A}; V_{CE} = 2\text{ V}; f = 1.0\text{ KHz}$	$h_{fe}$	min.	25					
Transition frequency at $f = 1\text{ MHz}$								
$I_C = 1\text{ A}; V_{CE} = 4\text{ V}$	$f_T$	min.	2.5					MHz

\* Pulse test: pulse width  $\leq 300\ \mu\text{s}$ ; duty cycle  $\leq 2\%$ .

## Notes

### Disclaimer

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**Continental Device India Limited**

C-120 Naraina Industrial Area, New Delhi 110 028, India.  
Telephone + 91-11-2579 6150, 5141 1112 Fax + 91-11-2579 5290, 5141 1119  
email@cdil.com www.cdilsemi.com