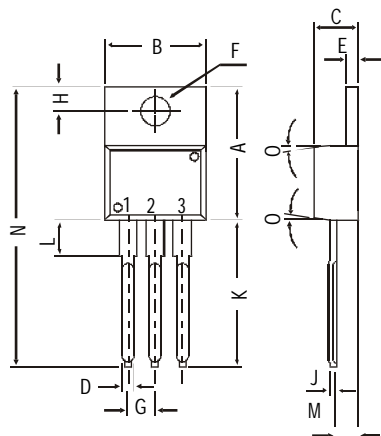
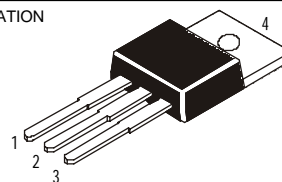


Boca Semiconductor Corp.**BSC***2N6121, 6122, 6123 NPN PLASTIC POWER TRANSISTORS**2N6124, 6125, 6126 PNP PLASTIC POWER TRANSISTORS**Medium Power Linear and Switching Applications*

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

		6121	6122	6123	
		6124	6125	6126	
Collector-base voltage (open emitter)	V_{CBO}	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 $T_C = 25^\circ\text{C}$	P_{tot}	max. 40			W
Junction temperature	T_j	max. 150			$^\circ\text{C}$
Collector-emitter saturation voltage	V_{CEsat}	max. 0.6			V
$I_C = 1.5\text{ A}; I_B = 0.15\text{ A}$					
D.C. current gain	h_{FE}	min. 25	25	20	
$I_C = 1.5\text{ A}; V_{CE} = 2\text{ V}$		max. 100	100	80	

RATINGS (at $T_A=25^\circ\text{C}$ unless otherwise specified)

		6121	6122	6123	
		6124	6125	6126	
Limiting values					
Collector-base voltage (open emitter)	V_{CBO}	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°C		max.	320	mW $^\circ\text{C}$
Junction temperature	T_j	max.	150	$^\circ\text{C}$
Storage temperature	T_{stg}		-65 to +150	$^\circ\text{C}$

THERMAL RESISTANCE

From junction to case	R_{thj-c}		3.12	$^\circ\text{C}/\text{W}$
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CHARACTERISTICS

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

6121 6122 6123
6124 6125 6126

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
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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
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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		
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Transition frequency at $f = 1\text{ MHz}$

$I_C = 1\text{ A}; V_{CE} = 4\text{ V}$	f_T	min.	2.5		MHz
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* Pulse test: pulse width $\leq 300\ \mu\text{s}$; duty cycle $\leq 2\%$.