

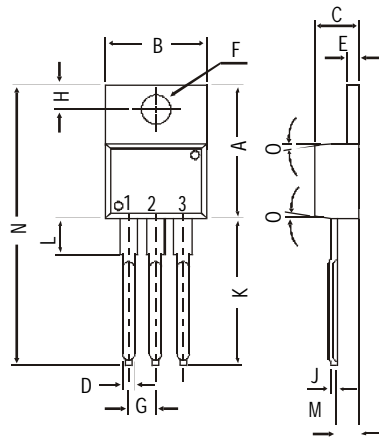
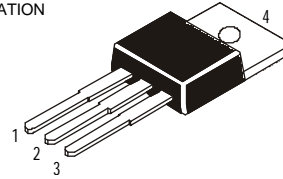
2N6486, 6487, 6488 *NPN PLASTIC POWER TRANSISTORS*
 2N6489, 6490, 6491 *PNP PLASTIC POWER TRANSISTORS*
General Purpose Amplifier and Switching Applications

Boca Semiconductor Corp.

BSC

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

	6486 6487 6488			6489 6490 6491		
Collector-base voltage (open emitter)	V_{CB0}	max.	50	70	90	V
Collector-emitter voltage (open base)	V_{CEO}	max.	40	60	80	V
Collector current	I_C	max.		15		A
Total power dissipation up to $T_C = 25^\circ\text{C}$	P_{tot}	max.		75		W
Junction temperature	T_j	max.		150		$^\circ\text{C}$
Collector-emitter saturation voltage $I_C = 5\text{ A}; I_B = 0.5\text{ A}$	V_{CEsat}	max.		1.3		V
D.C. current gain $I_C = 5\text{ A}; V_{CE} = 4\text{ V}$	h_{FE}	min.		20		
		max.		150		

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

Limiting values

	6486 6487 6488			6489 6490 6491		
Collector-base voltage (open emitter)	V_{CB0}	max.	50	70	90	V
Collector-emitter voltage (open base)	V_{CEO}	max.	40	60	80	V
Emitter-base voltage (open collector)	V_{EBO}	max.		5.0		V

2N6486, 2N6487, 2N6488
2N6489, 2N6490, 2N6491

Collector current	I_C	max.	15	A
Base current	I_B	max.	5.0	A
Total power dissipation up to $T_C = 25^\circ\text{C}$	P_{tot}	max.	75	W
Derate above 25°C		max.	0.6	$W^\circ\text{C}$
Total power dissipation up to $T_A = 25^\circ\text{C}$	P_{tot}	max.	1.8	W
Derate above 25°C		max.	0.014	$W^\circ\text{C}$
Junction temperature	T_j	max.	150	$^\circ\text{C}$
Storage temperature	T_{stg}		-65 to +150	$^\circ\text{C}$

THERMAL RESISTANCE

From junction to ambient	$R_{th\ j-a}$		70	$^\circ\text{C/W}$
From junction to case	$R_{th\ j-c}$		1.67	$^\circ\text{C/W}$

CHARACTERISTICS

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

6486 6487 6488
6489 6490 6491

Collector cutoff current				
$I_B = 0; V_{CE} = 20\text{ V}$	I_{CEO}	max.	1.0	- - mA
$I_B = 0; V_{CE} = 30\text{ V}$	I_{CEO}	max.	-	1.0 - mA
$I_B = 0; V_{CE} = 40\text{ V}$	I_{CEO}	max.	-	- 1.0 mA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 45\text{ V}$	I_{CEX}	max.	500	- - μA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 65\text{ V}$	I_{CEX}	max.	-	500 - μA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 85\text{ V}$	I_{CEX}	max.	-	- 500 μA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 40\text{ V}; T_C=150^\circ\text{C}$	I_{CEX}	max.	5.0	- - mA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 60\text{ V}; T_C=150^\circ\text{C}$	I_{CEX}	max.	-	5.0 - mA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 80\text{ V}; T_C=150^\circ\text{C}$	I_{CEX}	max.	-	- 5.0 mA
Emitter cut-off current				
$I_C = 0; V_{EB} = 5\text{ V}$	I_{EBO}	max.	1.0	mA
Breakdown voltages				
$I_C = 200\text{ mA}; I_B = 0$	$V_{CEO(sus)}^*$	min.	40	60 80 V
$I_C = 1\text{ mA}; I_E = 0$	V_{CBO}	min.	50	70 90 V
$I_C = 200\text{ mA}; V_{BE} = 1.5\text{ V}$	$V_{CEX(sus)}^*$	min.	50	70 90 V
$I_E = 1\text{ mA}; I_C = 0$	V_{EBO}	min.		5.0 V
Saturation voltages				
$I_C = 5\text{ A}; I_B = 0.5\text{ A}$	V_{CEsat}^*	max.	1.3	V
$I_C = 15\text{ A}; I_B = 5\text{ A}$	V_{CEsat}^*	max.	3.5	V
Base-emitter on voltage				
$I_C = 5\text{ A}; V_{CE} = 4\text{ V}$	$V_{BE(on)}^*$	max.	1.3	V
$I_C = 15\text{ A}; V_{CE} = 4\text{ V}$	$V_{BE(on)}^*$	max.	3.5	V
D.C. current gain				
$I_C = 5\text{ A}; V_{CE} = 4\text{ V}$	h_{FE}^*	min.	20	
		max.	150	
$I_C = 15\text{ A}; V_{CE} = 4\text{ V}$	h_{FE}^*	min.	5.0	
Transition frequency				
$I_C = 1\text{ A}; V_{CE} = 4\text{ V}; f = 1\text{ MHz}$	$f_T(1)$	min.	5.0	MHz
Small signal current gain				
$I_C = 1.0\text{ A}; V_{CE} = 4\text{ V}; f = 1.0\text{ KHz}$	h_{fe}	min.	25	

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

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