

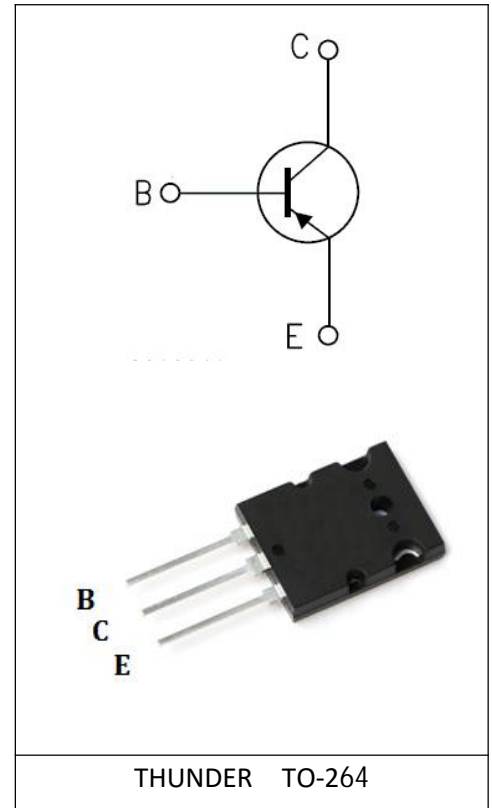
Minos Silicon PNP Epitaxial Type

**MJL21193**

**Power Amplifier Applications**

- Complementary to MJL21194
- High collector voltage:  $V_{CEO} = -250V$  (min)
- Recommended for 100-W high-fidelity audio frequency amplifier Output stage

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.



THUNDER TO-264

**Absolute Maximum Ratings( $T_c=25^\circ C$ ):**

Characteristics	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	-400	V
Collector-emitter voltage	$V_{CEO}$	-250	V
Emitter-base voltage	$V_{EBO}$	-5	V
Collector current	$I_c$	-16	A
Base current	$I_B$	-5	A
Collector power dissipation ( $T_c=25^\circ C$ )	$P_c$	200	W
Junction temperature	$T_j$	150	$^\circ C$
Storage temperature range	$T_{STG}$	-55~150	$^\circ C$

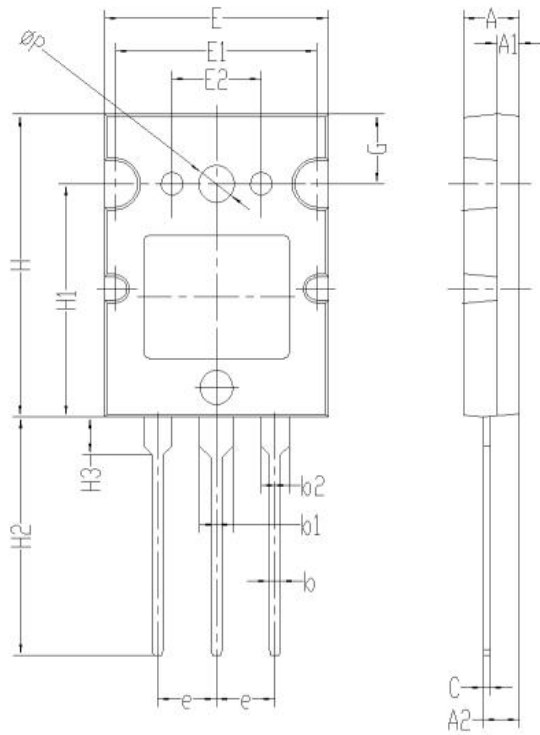
**Electrical Characteristics (Tc=25°C):**

Characteristics	Symbol	Test Condition	Min	Typ	Max	Unit
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =-250V; I <sub>E</sub> =0			-10.0	uA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-10.0	uA
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =-50mA; I <sub>B</sub> =0	-250			V
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> =-5V; I <sub>C</sub> =-8A;	20		80	
	h <sub>FE(2)</sub>	V <sub>CE</sub> =-5V; I <sub>C</sub> =-16A;	8			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-8A; I <sub>B</sub> =-0.8A			-1.4	V
	V <sub>CE(sat)</sub>	I <sub>C</sub> =-16A; I <sub>B</sub> =-3.2A			-4	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> =-5V; I <sub>C</sub> =-8A			-2.2	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =-10V; I <sub>C</sub> =-1A	4			MHz

Symbol	Parameter	Typ	Units
R <sub>θJC</sub>	Junction-to-Case	0.63	°C/W

**Package Information**

**TO-264 PACKAGE**



Symbol	Dimensions (millimeters)	
	Min.	Max.
A	4.80	5.20
A1	1.80	2.20
A2	3.00	3.40
b	0.80	1.20
b1	2.80	3.20
b2	2.30	2.70
c	0.40	0.80
e	5.25	5.65
E	19.8	20.2
E1	17.8	18.2
E2	7.8	8.2
H	25.8	26.2
H1	19.8	20.2
H2	20.0	21.0
H3	3.05	3.45
G	5.80	6.20
ΦP	3.10	3.50
J	4.80	5.20
K	1.80	2.20

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