

### General Description

The 2SD1804 is NPN silicon power transistor, Designed for general purpose amplifier and low speed switching applications.

### Product Summary

VCEO	IC
50V	8A

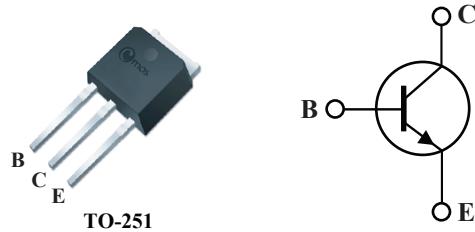
### Features

- High Speed Switching Time
- Low Collector-emitter saturation voltage
- RoHS Compliant

### Applications

- DC-DC converter
- Audio power amplifier

### TO-251 Pin Configuration



### Absolute Maximum Ratings(Ta = 25°C unless otherwise noted)

Symbol	Parameter	Rating	Units
$V_{CBO}$	Collector to Base Voltage	60	V
$V_{CEO}$	Collector to Emitter Voltage	50	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current	8	A
$P_C$	Collector Dissipation( $T_c=25^\circ\text{C}$ )	20	W
$T_{STG}$	Storage Temperature Range	-55 to 150	°C
$T_J$	Junction Temperature	150	°C

## Electrical Characteristics (Ta =25°C , unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV <sub>CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =2mA, I <sub>E</sub> =0	60	---	---	V
BV <sub>CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =2mA, I <sub>B</sub> =0	50	---	---	V
BV <sub>EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =-10μA, I <sub>C</sub> =0	6	---	---	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =150V, I <sub>E</sub> =0	---	---	50	nA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> =5mA, V <sub>CE</sub> =2.0V	200	---	600	
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> =250mA, I <sub>B</sub> =4A	---	---	0.2	V
C <sub>ob</sub>	Output Capacitance	V <sub>CB</sub> =10V, I <sub>E</sub> = 0, f = 1MHz	---	65	---	pF
f <sub>T</sub>	Current Gain Bandwidth Product	I <sub>C</sub> =1A, V <sub>CE</sub> =5V	---	180	---	MHz
t <sub>on</sub>	Fall Time	See specified test circuit.	---	50	---	ns
t <sub>stg</sub>	Storage Time	See specified test circuit.	---	500	---	ns
t <sub>f</sub>	Turn-On Time	See specified test circuit.	---	20	---	ns

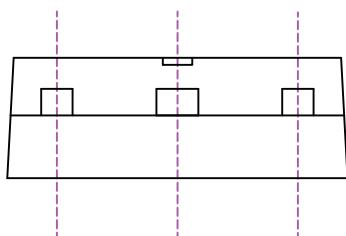
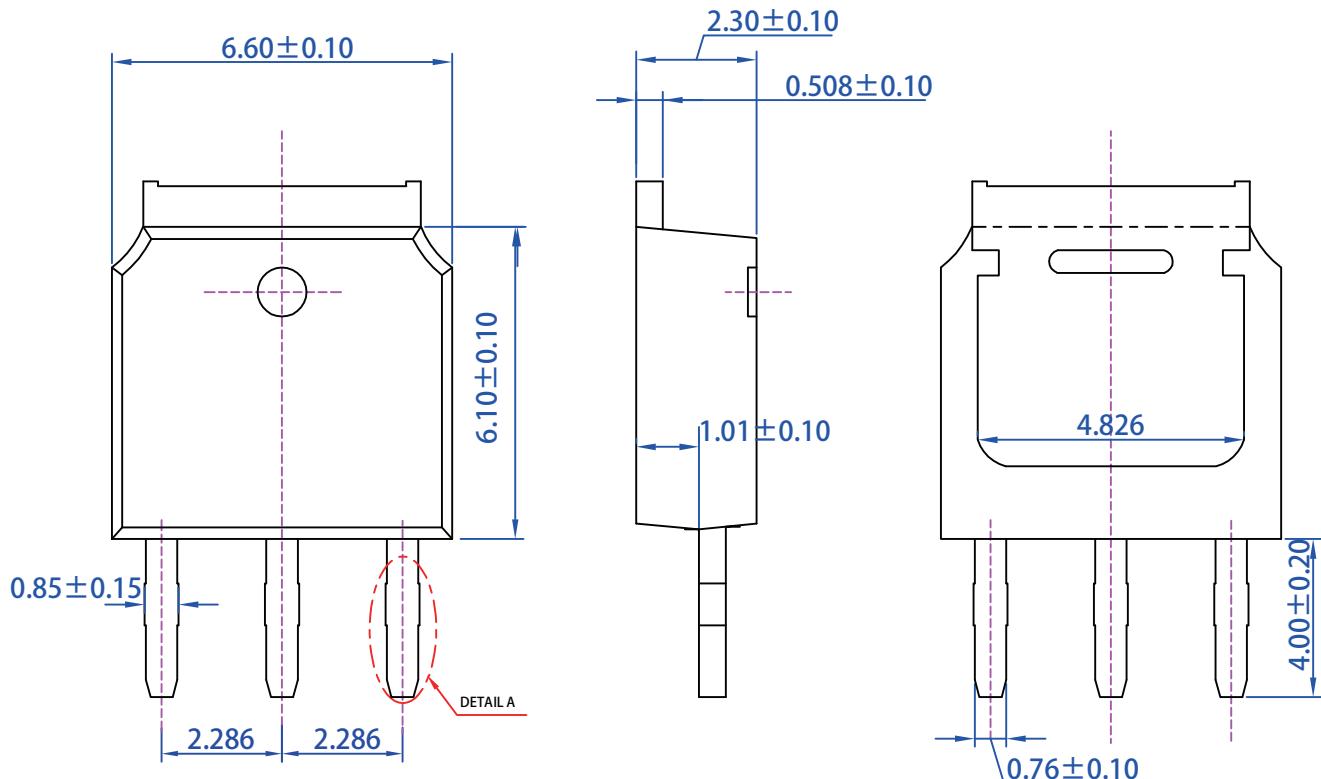
This product has been designed and qualified for the consumer market.

Cmos assumes no liability for customers' product design or applications.

Cmos reserves the right to improve product design ,functions and reliability without notice.

### Package Dimensions

### Complementary power Darlington transistors



#### Note:

1. Tolerance  $\pm 0.15$  is not noted, and rounded corners  $R_{Max} = 0.25$  is not marked
2. Mark the unit MM
3. The top pinhole is not allowed to protrude from the plastic sealing surface