



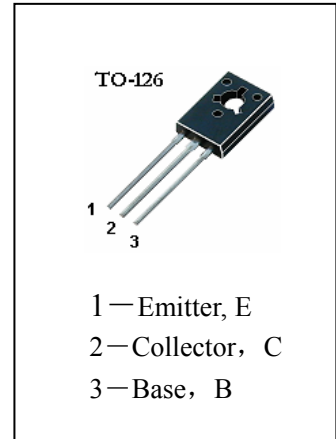
# HSBD176

## APPLICATIONS

Medium Power Linear switching Applications

### ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub>=25°C)

T <sub>stg</sub>	Storage Temperature	-55~150°C
T <sub>j</sub>	Junction Temperature	150°C
P <sub>C</sub>	Collector Dissipation (T <sub>c</sub> =25°C)	30W
V <sub>CBO</sub>	Collector-Base Voltage	-45V
V <sub>CEO</sub>	Collector-Emitter Voltage	-45V
V <sub>EBO</sub>	Emitter-Base Voltage	-5V
I <sub>C</sub>	Collector Current (Pulse)	-7A
I <sub>C</sub>	Collector Current (DC)	-3A



### ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C)

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
ICBO	Collector Cut-off Current			-100	μ A	V <sub>CB</sub> =-45V, I <sub>E</sub> =0
IEBO	Emitter Cut-off Current			-1	mA	V <sub>EB</sub> =-5V, I <sub>C</sub> =0
*H <sub>FE</sub> (1)	DC Current Gain	40		250		V <sub>CE</sub> =-2V, I <sub>C</sub> =-150mA
*H <sub>FE</sub> (2)	DC Current Gain	15				V <sub>CE</sub> =-2V, I <sub>C</sub> =1A
*V <sub>CE(sat)</sub>	Collector- Emitter Saturation Voltage			-0.8	V	I <sub>C</sub> =-1A, I <sub>B</sub> =-0.1A
*V <sub>BE(on)</sub>	Base-Emitter On Voltage			-1.3	V	V <sub>CE</sub> =-2V, I <sub>C</sub> =-1A
V <sub>CEO(sus)</sub>	Collector-Emitter Sustaining Voltage	-45			V	I <sub>C</sub> =-100mA, I <sub>B</sub> =0
f <sub>t</sub>	Current Gain-Bandwidth Product	3			MHz	V <sub>CE</sub> =-10V, I <sub>C</sub> =-250mA,

\*Pulse Test:PW=300 μ s, Duty Cycle=1.5% Pulsed

### h<sub>FE(3)</sub> Classification

Cassification	6	10	16
h <sub>FE(3)</sub>	40~100	63~160	100~250