



HSBD176

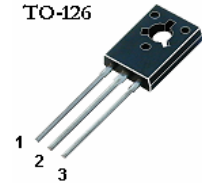
APPLICATIONS

Medium Power Linear switching Applications

ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$)

T_{stg}	Storage Temperature	$-55\sim 150^{\circ}\text{C}$
T_j	Junction Temperature	150°C
P_C	Collector Dissipation ($T_c=25^{\circ}\text{C}$)	30W
V_{CBO}	Collector-Base Voltage	-45V
V_{CEO}	Collector-Emitter Voltage	-45V
V_{EBO}	Emitter-Base Voltage	-5V
I_C	Collector Current (Pulse)	-7A
I_C	Collector Current (DC)	-3A

TO-18



1 — Emitter, E
2 — Collector, C
3 — Base, B

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$)

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
I_{CBO}	Collector Cut-off Current			-100	μA	$V_{\text{CB}}=-45\text{V}, I_{\text{E}}=0$
I_{EBO}	Emitter Cut-off Current			-1	mA	$V_{\text{EB}}=-5\text{V}, I_{\text{C}}=0$
* $h_{\text{FE}}(1)$	DC Current Gain	40		250		$V_{\text{CE}}=-2\text{V}, I_{\text{C}}=-150\text{mA}$
* $h_{\text{FE}}(2)$	DC Current Gain	15				$V_{\text{CE}}=-2\text{V}, I_{\text{C}}=1\text{A}$
* $V_{\text{CE(sat)}}$	Collector- Emitter Saturation Voltage			-0.8	V	$I_{\text{C}}=-1\text{A}, I_{\text{B}}=-0.1\text{A}$
* $V_{\text{BE(on)}}$	Base-Emitter On Voltage			-1.3	V	$V_{\text{CE}}=-2\text{V}, I_{\text{C}}=-1\text{A}$
$V_{\text{CEO(sus)}}$	Collector-Emitter Sustaining Voltage	-45			V	$I_{\text{C}}=-100\text{mA}, I_{\text{B}}=0$
f_t	Current Gain-Bandwidth Product	3			MHz	$V_{\text{CE}}=-10\text{V}, I_{\text{C}}=-250\text{mA},$

*Pulse Test: $PW=300\mu\text{s}$, Duty Cycle=1.5% Pulsed

$h_{\text{FE}(3)}$ Classification

Cassification	6	10	16
$h_{\text{FE}(3)}$	40~100	63~160	100~250