



Shantou Huashan Electronic Devices Co.,Ltd.

NPN SILICON TRANSISTOR

HSBD177

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..... 60V

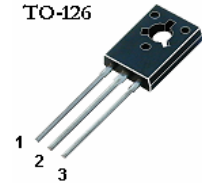
V_{CEO} —Collector-Emitter Voltage..... 60V

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	$V_{\text{CB}}=60\text{V}$, $I_{\text{E}}=0$
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	60			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