Shantou Huashan Electronic Devices Co.,Ltd.

NPN SILICON TRANSIST OR

HSBD139

APPLICATIONS

Medium Power Linear switching Applications

1—Emitter, E
2—Collector，C
3—Base，B

ABSOLUTE MAXIMUM RATINGS（T_a=25℃）

T_{stg}——Storage Temperature…… -55~150℃

T_j——Junction Temperature…… 150℃

P_C——Collector Dissipation（T_c=25℃）…… 12.5W

P_C——Collector Dissipation（T_A=25℃）…… 1.25W

V_{CBO}——Collector-Base Voltage…… 80V

V_{CEO}——Collector-Emitter Voltage…… 80V

V_{EBO}——Emitter-Base Voltage…… 5V

I_C——Collector Current（Pulse）…… 3A

I_C——Collector Current（DC）…… 1.5A

I_B——Base Current……0.5A

ELECTRICAL CHARACTERISTICS（T_a=25℃）

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
I_{CBO}	Collector Cut-off Current			0.1	μA	V_{CB}=30V, I_E=0
I_{EBO}	Emitter-Base Cut-off Current			10	μA	V_{EB}=5V, I_C=0
$h_{FE(1)}$	DC Current Gain	25				V_{CE}=2V, I_C=5mA
$h_{FE(2)}$		25				V_{CE}=2V, I_C=0.5A
$h_{FE(3)}$		40		250		V_{CE}=2V, I_C=150mA
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage			0.5	V	I_C=500mA, I_B=50mA
$V_{BE(ON)}$	Base-Emitter On Voltage			1.0	V	I_C=0.5A, V_{CE}=2V
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	80				I_C=30mA, I_B=0

$h_{FE(3)}$ Classification

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

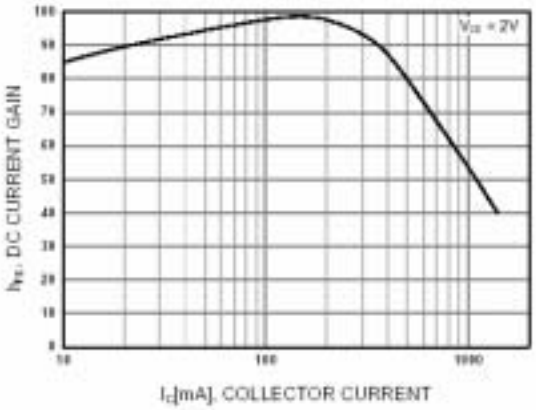

Figure 1. DC current Gain

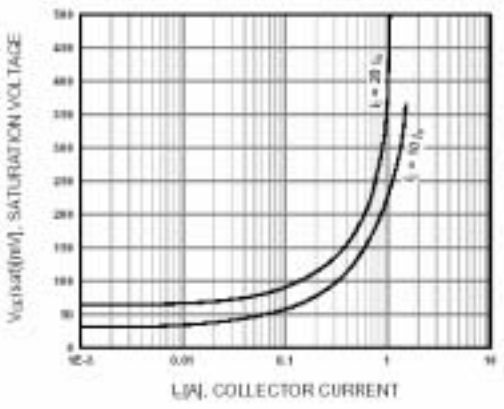

Figure 2. Collector-Emitter Saturation Voltage

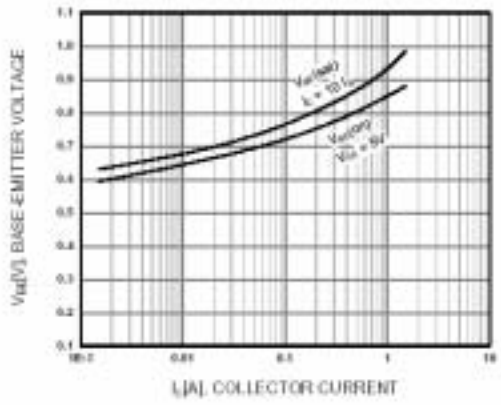

Figure 3. Base-Emitter Voltage

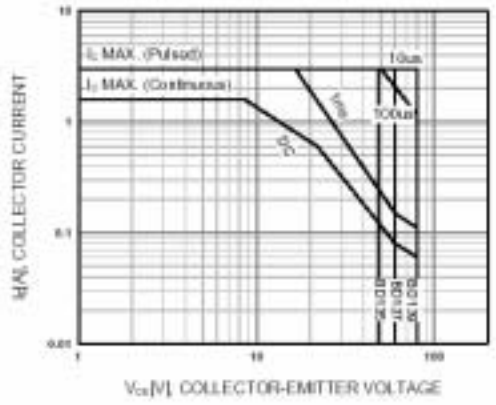

Figure 4. Safe Operating Area

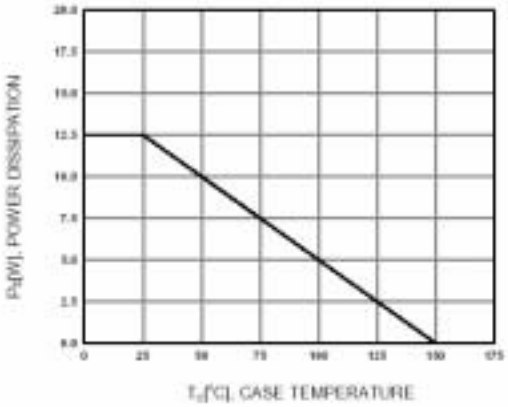

Figure 5. Power Derating