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FAIRCHILD

SEMICONDUCTOR ™

KSD1692

Feature

- High Dc Durrent Gain
- Low Collector Saturation Voltage
- Built-in a Damper Diode at E-C
- High Power Dissipation : P_C = 1.3W (Ta=25°C)

1   TO-126

1. Emitter   2.Collector   3.Base
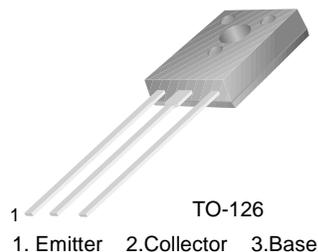
NPN Silicon Darlington Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Sym-bol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	150	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current (DC)	3	A
I_{CP}	*Collector Current (Pulse)	5	A
P_C	Collector Dissipation (T_a=25°C)	1.3	A
P_C	Collector Dissipation (T_C=25°C)	15	W
T_J	Junction Temperature	150	W
T_{STG}	Storage Temperature	- 55 ~ 150	°C

* PW≤10ms, duty Cycle≤50%

R1 = 8 kΩ
R2 = 0.6 kΩ
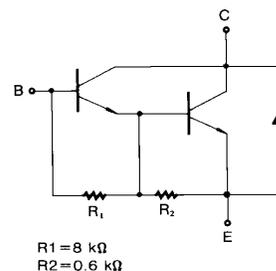
Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CBO}	Collector Cut-off Current	V_{CB} = 100V, I_E = 0			10	µA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 5V, I_C = 0			2	mA
h_{FE1} h_{FE2}	*DC Current Gain	V_{CE} = 2V, I_C = 1.5A / V_{CE} = 2V, I_C = 3A	2K 1K		20K	
V_{CE}(sat)	*Collector-Emitter Saturation Voltage	I_C = 1.5A, I_B = 1.5mA		0.9	1.2	V
V_{BE}(sat)	*Base-Emitter Saturation Voltage	I_C = 1.5A, I_B = 1.5mA		1.5	2	V
t_{ON}	Turn ON Time	V_{CC} = 40V, I_C = 1.5A I_{B1} = - I_{B2} = 1.5mA R_L = 27Ω		0.5		µs
t_{STG}	Storage Time			2		µs
t_F	Fall Time			1		µs

* Pulse test: PW≤350µs, duty Cycle≤2% Pulsed

h_{FE} Classificntion

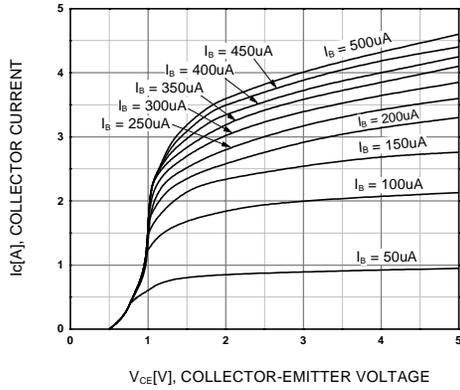| Classification	O	Y	G
h_{FE1}	2000 ~ 5000	4000 ~ 12000	6000 ~ 20000

Typical Characteristics

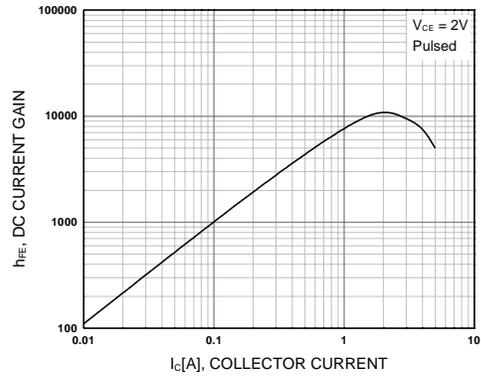**Figure 1. Static Characteristic**
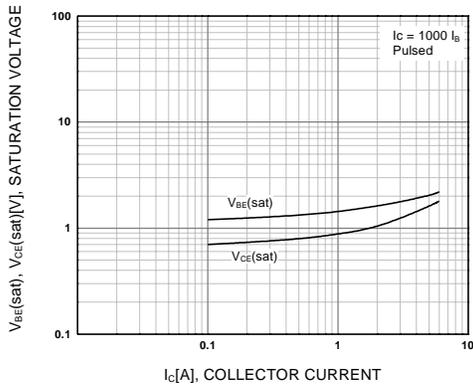

Figure 2. DC current Gain

Figure 3. Collector-Emitter Saturation Voltage
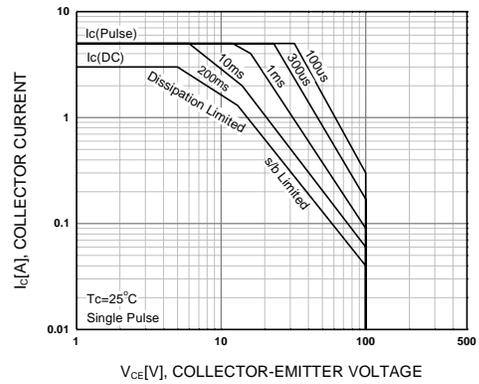**Base-Emitter Saturation Voltage**
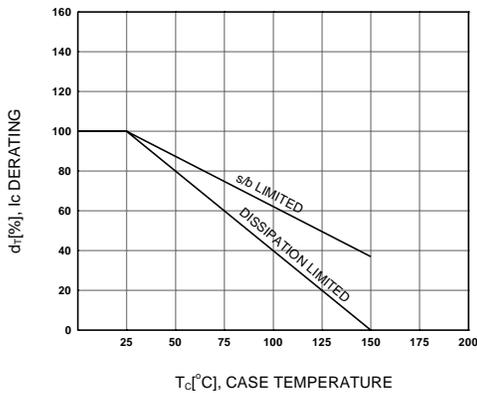

Figure 4. Forward Bias Safe Operating Areas
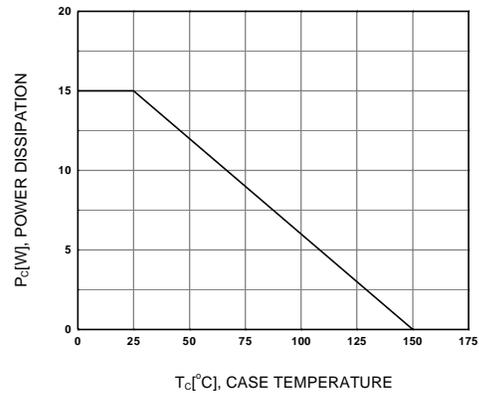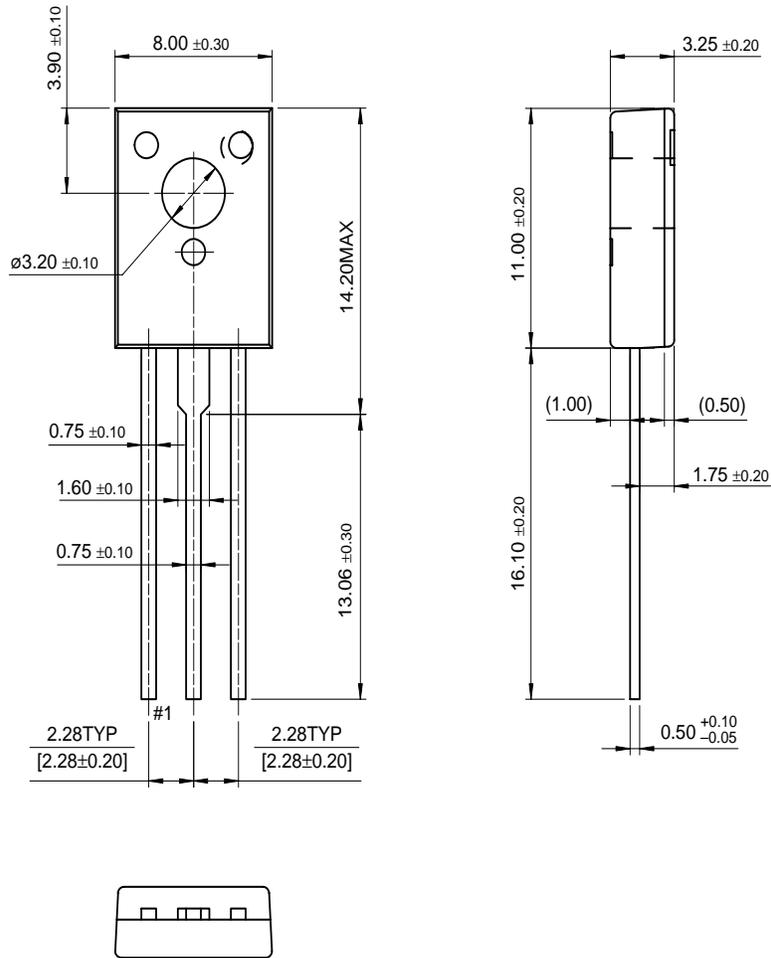

Figure 5. Derating Curve of Safe Operating Areas

Figure 6. Power Derating

Package Demensions

TO-126

8.00 ±0.30

3.90 ±0.10

ø3.20 ±0.10

14.20MAX

0.75 ±0.10

1.60 ±0.10

0.75 ±0.10

13.06 ±0.30

#1

2.28TYP
[2.28±0.20]

2.28TYP
[2.28±0.20]

3.25 ±0.20

11.00 ±0.20

(1.00)

(0.50)

1.75 ±0.20

16.10 ±0.20

0.50 +0.10 −0.05

Dimensions in Millimeters

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FAST®	Quiet Series™	
FASTr™	SuperSOT™-3	
GTO™	SuperSOT™-6	

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