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FAIRCHILD SEMICONDUCTOR™

KSA1156

High Voltage Switching
Low Power Switching Regulator
DC-DC Converter

- High Breakdown Voltage
- Low Collector Saturation Voltage
- High Speed Switching

1 TO-126

1. Emitter 2.Collector 3.Base

PNP Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Ratings	Units
V_{CBO}	Collector-Base Voltage	- 400	V
V_{CEO}	Collector-Emitter Voltage	- 400	V
V_{EBO}	Emitter-Base Voltage	- 7	V
I_B	Base Current	- 0.25	A
I_C	Collector Current (DC)	- 0.5	A
I_{CP}	Collector Current (Pulse)	- 1	A
P_C	Collector Dissipation (T_a=25°C)	1	W
P_C	Collector Dissipation (T_C=25°C)	10	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
V_{CEO}(sus)	Collector-Emitter Sustaining Voltage	I_C = - 100mA, I_B = - 10mA L = - 20mH	- 400		V
V_{CEX}(sus)	Collector-Emitter Sustaining Voltage	I_C = - 200mA, I_{B1} = - I_{B2} = - 20mA V_{BE}(off)= 5V, L = 10mH	- 400		V
I_{CBO}	Collector Cut-off Current	V_{CB} = - 400V, I_E = 0		- 100	µA
I_{EBO}	Emitter Cut-off Current	V_{EB} = - 5V, I_C = 0		- 10	µA
I_{CEX1}	Collector Cut-off Current	V_{CE} = - 400V, V_{BE}(off) = 1.5V		- 100	µA
I_{CEX2}	Collector Cut-off Current	V_{CE} = - 400V, V_{BE}(off) = 1.5V T_C= 125°C		- 1	mA
h_{FE}	DC Current Gain	V_{CE} = - 5V, I_C = - 100mA	30	200	
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = - 100mA, I_B = - 10mA		- 1	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = - 100mA, I_B = - 10mA		- 1.2	V
t_{ON}	Turn On Time	V_{CC} = - 150V, I_C = - 100mA I_{B1}= - 10mA , I_{B2} = 20mA R_L = 1.5KΩ		1	µs
t_{STG}	Storage Time			4	µs
t_F	Fall Time			1	µs

h_{FE} Classification

Classification	N	R	O	Y
h_{FE}	30 ~ 60	40 ~ 80	60 ~ 120	100 ~ 200

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Typical Characteristics

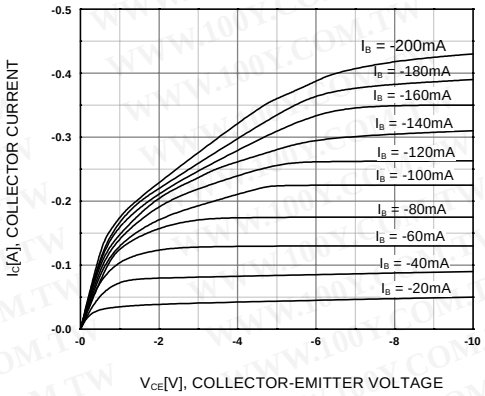

Figure 1. Static Characteristic

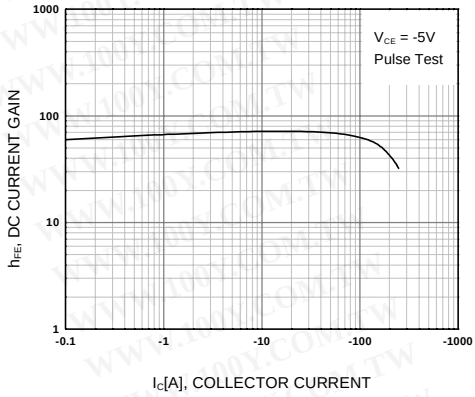

Figure 2. DC current Gain

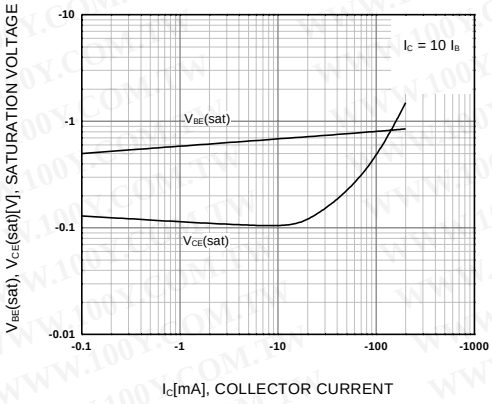

Figure 3. Collector-Emitter Saturation Voltage Base-Emitter Saturation Voltage

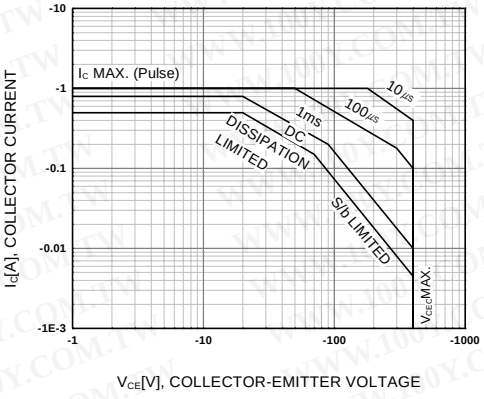

Figure 4. Safe Operating Area

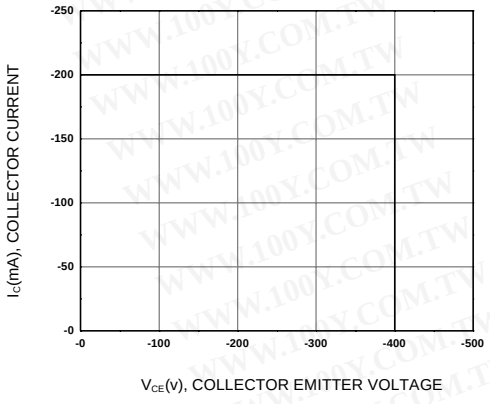

Figure 5. Reverse Bias Safe Operating Area

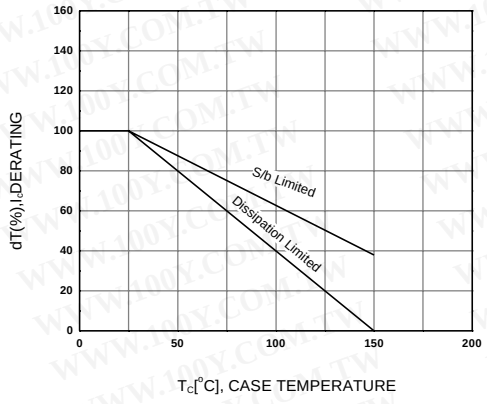

Figure 6. Derating Curve of Safe Operating Areas

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Typical characteristics (Continued)

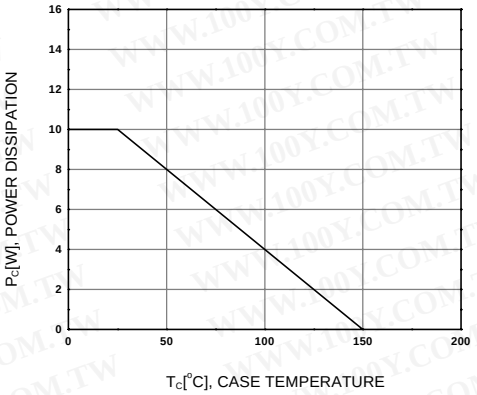

Figure 7. Power Derating

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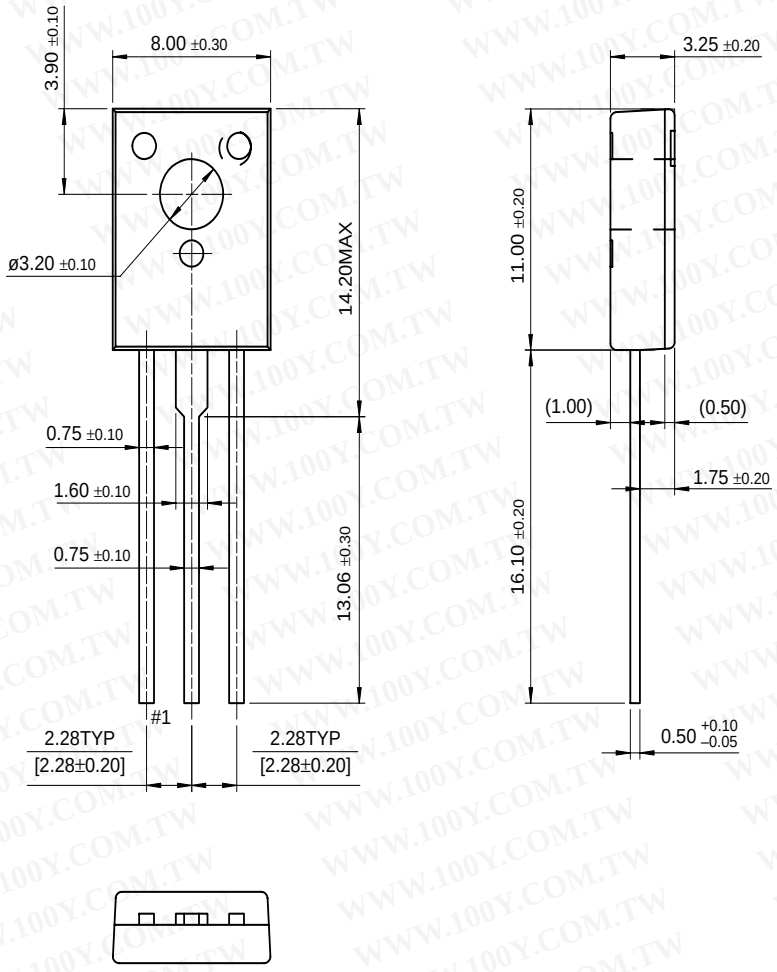
Package Demensions

TO-126



Dimensions in Millimeters

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