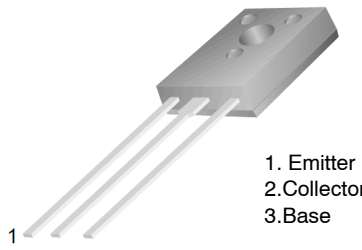
PNP Silicon Transistor

KSA1156



1. Emitter
2.Collector
3.Base

TO−126−3LD
CASE 340AS

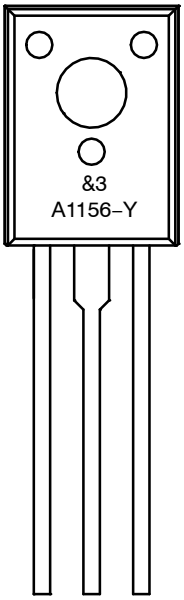
Features

- High Breakdown Voltage
- Low Collector Saturation Voltage
- High Speed Switching
- This is a Pb−Free Device

Applications

- High Voltage Switching
- Low Power Switching Regulator
- DC−DC Converter

MARKING DIAGRAM



&3 = 3−Digit Date Code
A1156−Y = Specific Device Code

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 T_C = 25°C	1 10	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	−55 ~ 150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

ORDERING INFORMATION

Device	Package	Shipping
KSA1156YS	TO−126−3LD (Pb−Free)	2000 Units / Bulk Bag

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

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

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

h_{FE} CLASSIFICATION

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

TYPICAL CHARACTERISTICS

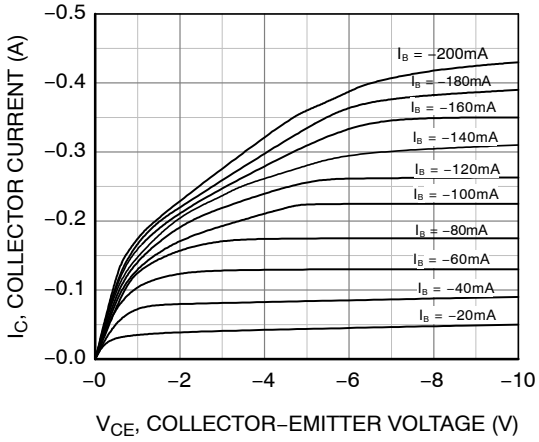


Figure 1. Static Characteristic

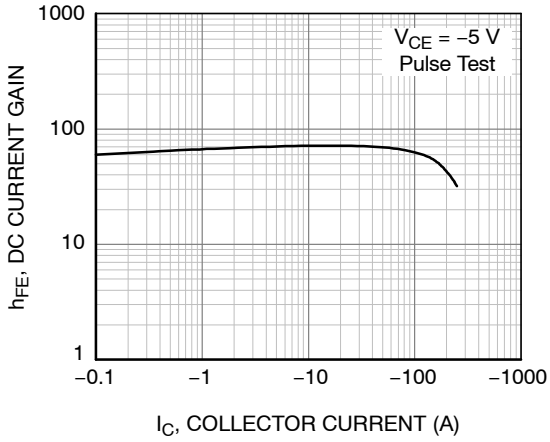


Figure 2. DC Current Gain

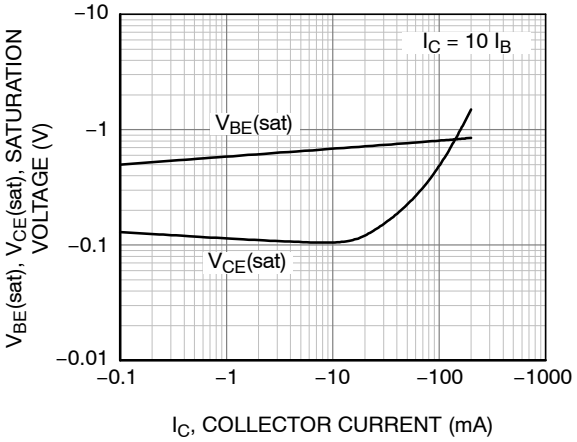


Figure 3. Collector−Emitter Saturation Voltage Base−Emitter Saturation Voltage

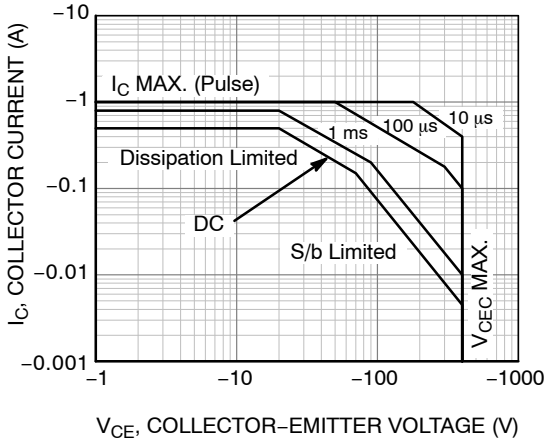


Figure 4. Safe Operating Area

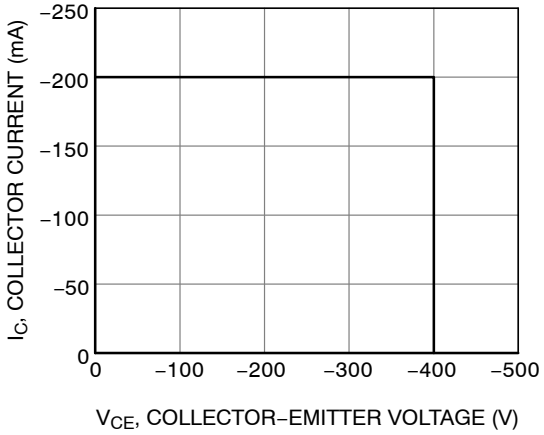


Figure 5. Reverse Bias Safe Operating Area

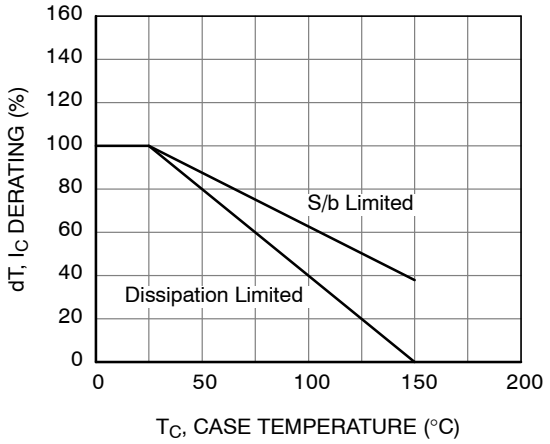


Figure 6. Derating Curve of Safe Operating Areas

TYPICAL CHARACTERISTICS (Continued)

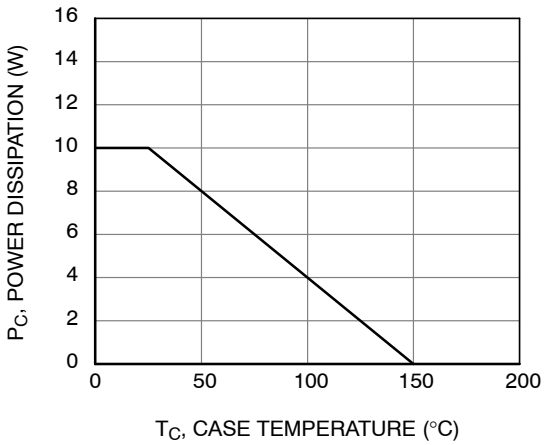


Figure 7. Power Derating

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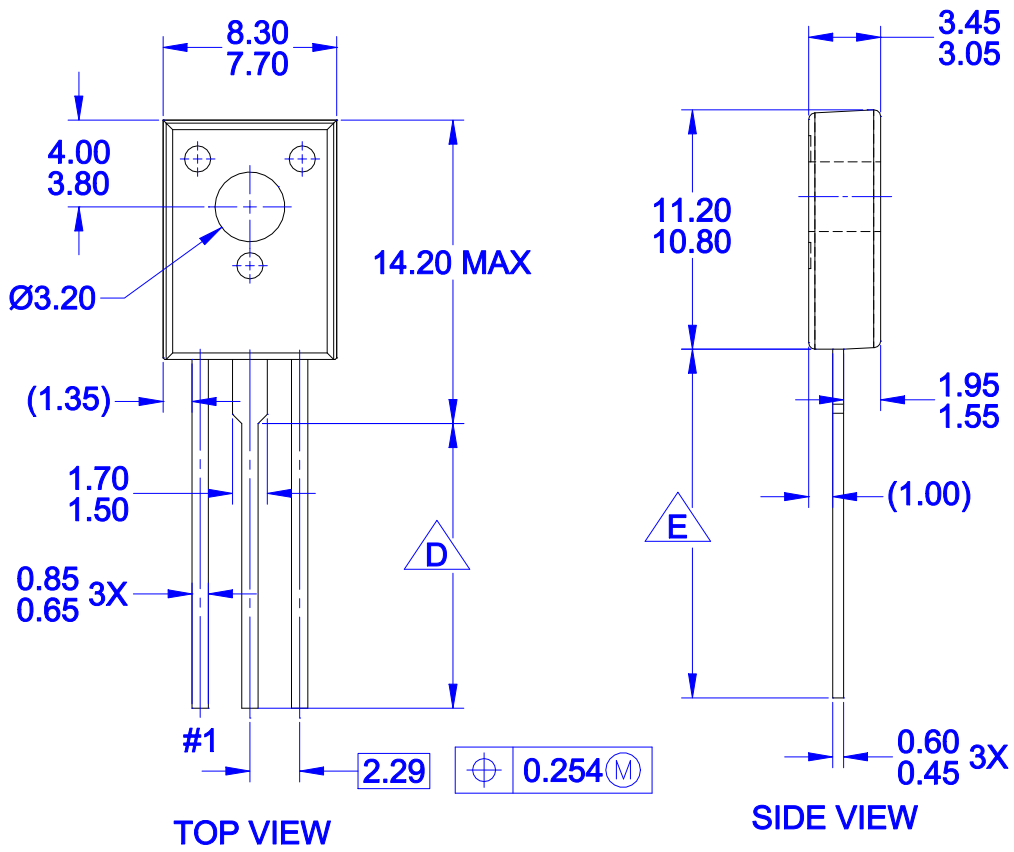
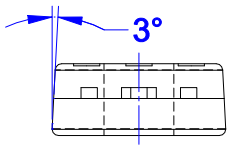


TOP VIEW

SIDE VIEW



FRONT VIEW

PRODUCTION CODE	TERMINAL LENGTH "D"	TERMINAL LENGTH "E"
TSSTU	3.45 - 4.05	6.45 - 7.45
TSTU	2.36 - 2.96	5.36 - 6.36
NONE (STD LENGTH)	12.76 - 13.36	15.76 - 16.76

NOTES:

A. NO INDUSTRY STANDARD APPLIES TO THIS PACKAGE
B. ALL DIMENSIONS ARE IN MILLIMETERS
C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR PROTRUSIONS

D FOR TERMINAL LENGTH "D", REFER TO TABLE

E FOR TERMINAL LENGTH "E", REFER TO TABLE

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