



**THE DATASHEET OF
KSA1156YSTSTU**



PNP Silicon Transistor

KSA1156

Features

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

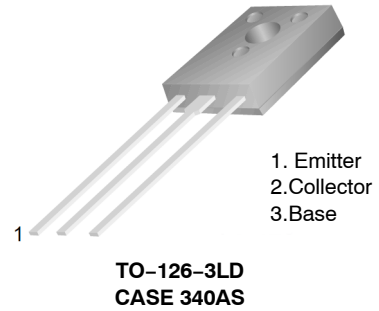
Applications

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

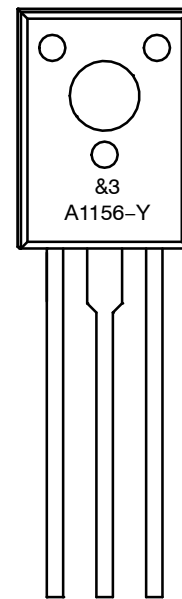
ABSOLUTE MAXIMUM RATINGS (T_C = 25°C unless otherwise noted)

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.



MARKING DIAGRAM



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

ORDERING INFORMATION

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

KSA1156

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Characteristic	Test Condition	Min	Max	Unit
$V_{CE0(sus)}$	Collector-Emitter Sustaining Voltage	$I_C = -100\text{ mA}, I_B = -10\text{ mA}, L = -20\text{ mH}$	-400	-	V
$V_{CEX(sus)}$	Collector-Emitter Sustaining Voltage	$I_C = -200\text{ mA}, I_{B1} = I_{B2} = -20\text{ mA}, V_{BE(off)} = 5\text{ V}, L = 10\text{ mH}$	-400	-	V
I_{CBO}	Collector Cut-off Current	$V_{CB} = -400\text{ V}, I_E = 0$	-	-100	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = -5\text{ V}, I_C = 0$	-	-10	μA
I_{CEX1}	Collector Cut-off Current	$V_{CE} = -400\text{ V}, V_{BE(off)} = 1.5\text{ V}$	-	-100	μA
I_{CEX2}	Collector Cut-off Current	$V_{CE} = -400\text{ V}, V_{BE(off)} = 1.5\text{ V}, T_C = 125^\circ\text{C}$	-	-1	mA
h_{FE}	DC Current Gain	$V_{CE} = -5\text{ V}, I_C = -100\text{ mA}$	30	200	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -100\text{ mA}, I_B = -10\text{ mA}$	-	-1	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -100\text{ mA}, I_B = -10\text{ mA}$	-	-1.2	V
t_{ON}	Turn On Time	$V_{CC} = -150\text{ V}, I_C = -100\text{ mA}, I_{B1} = -10\text{ mA}, I_{B2} = 20\text{ mA}, R_L = 1.5\text{ k}\Omega$	-	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

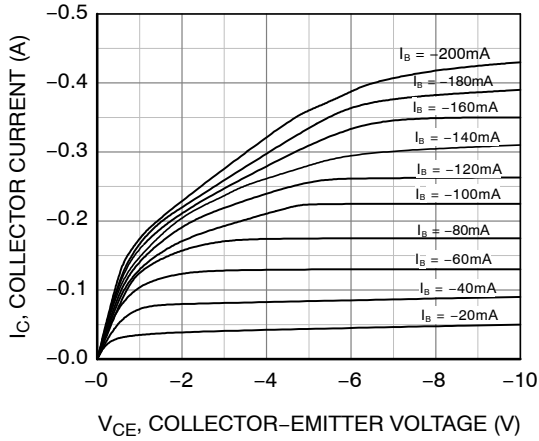


Figure 1. Static Characteristic

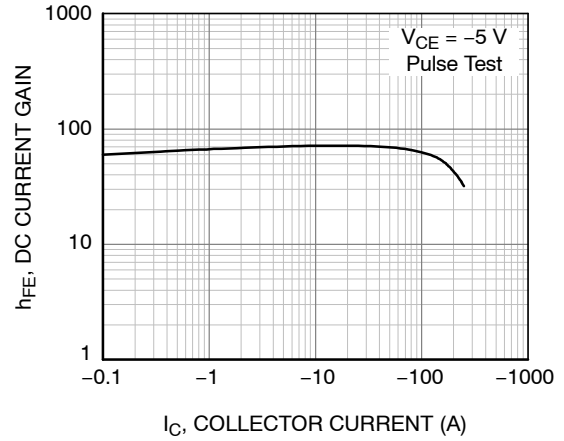


Figure 2. DC Current Gain

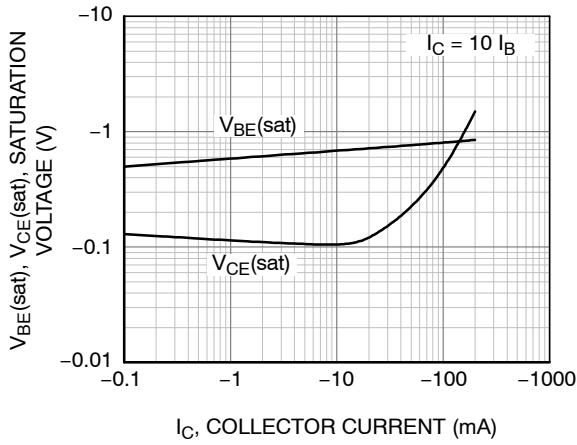


Figure 3. Collector-Emitter Saturation Voltage
Base-Emitter Saturation Voltage

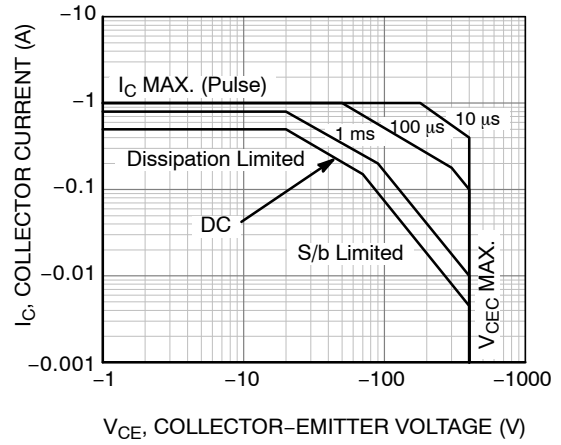


Figure 4. Safe Operating Area

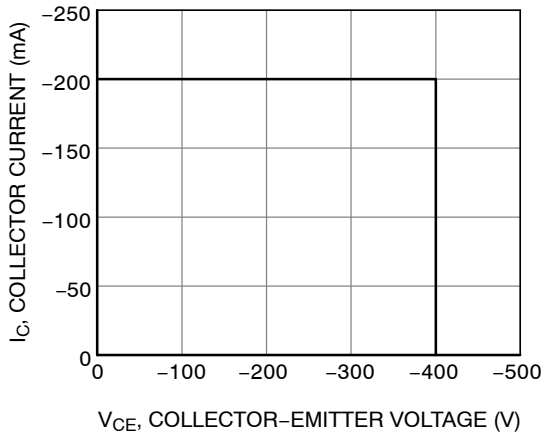


Figure 5. Reverse Bias Safe Operating Area

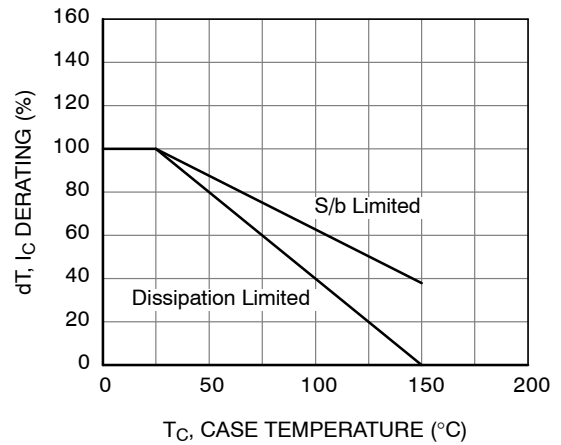


Figure 6. Derating Curve of Safe Operating Areas

KSA1156

TYPICAL CHARACTERISTICS (Continued)

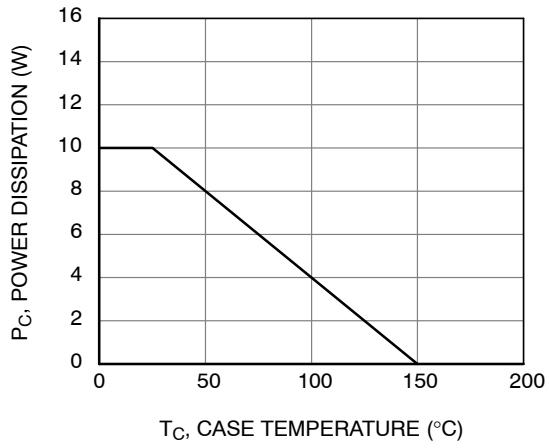


Figure 7. Power Derating

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