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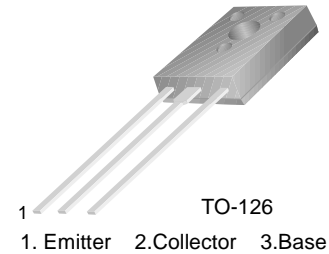


KSA1156

KSA1156

High Voltage Switching Low Power Switching Regulator DC-DC Converter

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



PNP Silicon Transistor

Absolute Maximum Ratings $T_C=25^\circ\text{C}$ 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 ($T_a=25^\circ\text{C}$)	1	W
P_C	Collector Dissipation ($T_C=25^\circ\text{C}$)	10	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	- 55 ~ 150	$^\circ\text{C}$

Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
$V_{CEO(sus)}$	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

h_{FE} Classification

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

Typical Characteristics

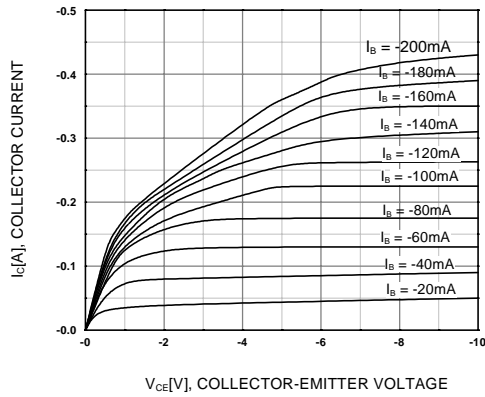


Figure 1. Static Characteristic

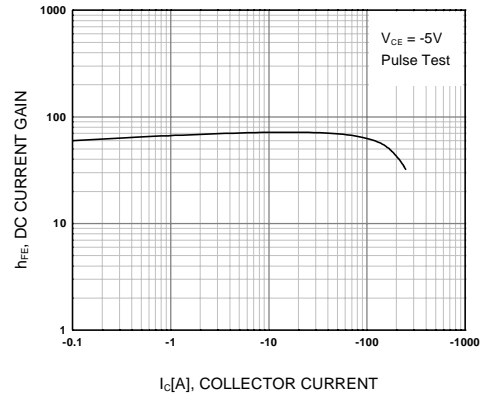


Figure 2. DC current Gain

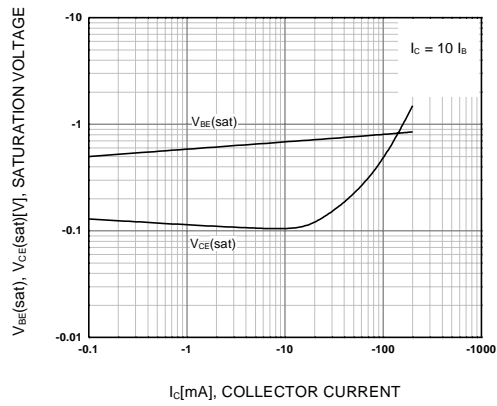


Figure 3. Collector-Emitter Saturation Voltage
Base-Emitter Saturation Voltage

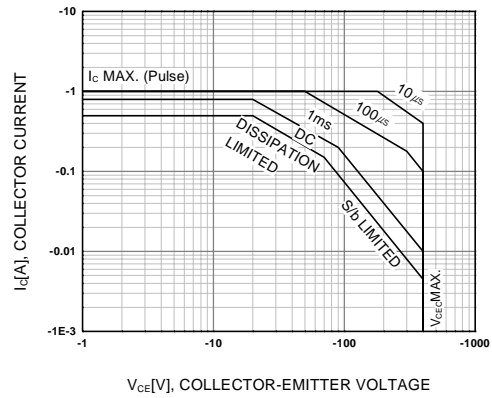


Figure 4. Safe Operating Area

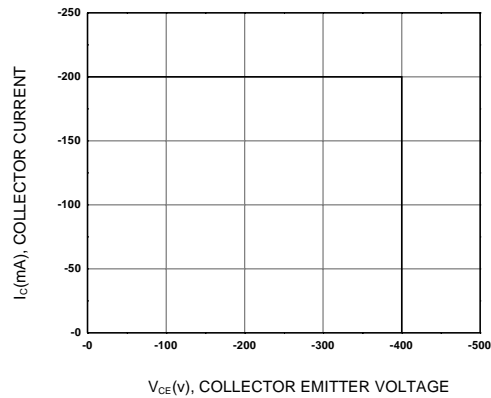


Figure 5. Reverse Bias Safe Operating Area

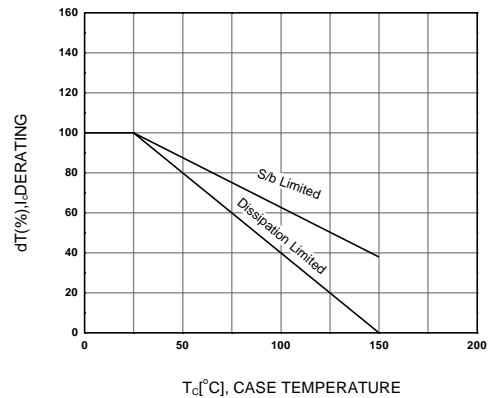
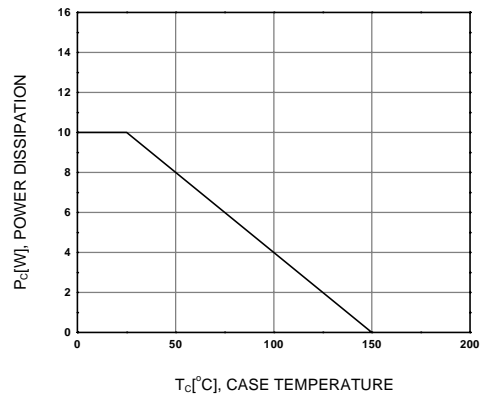
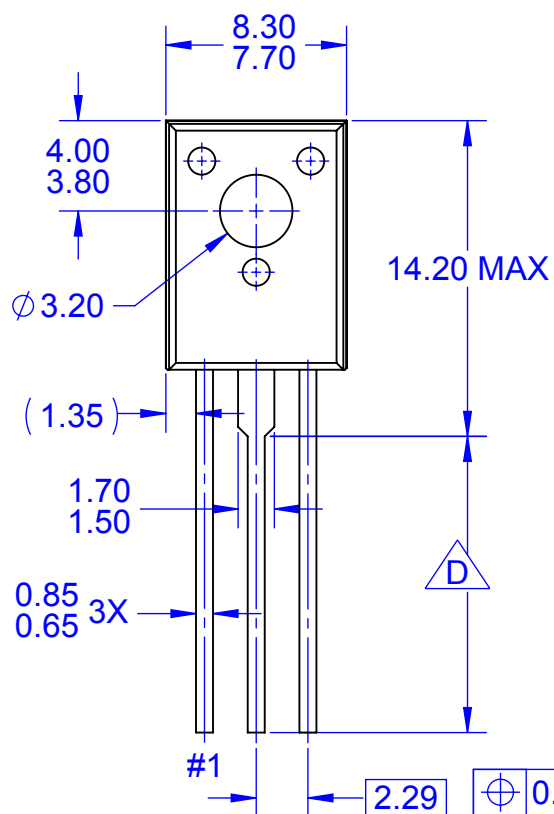
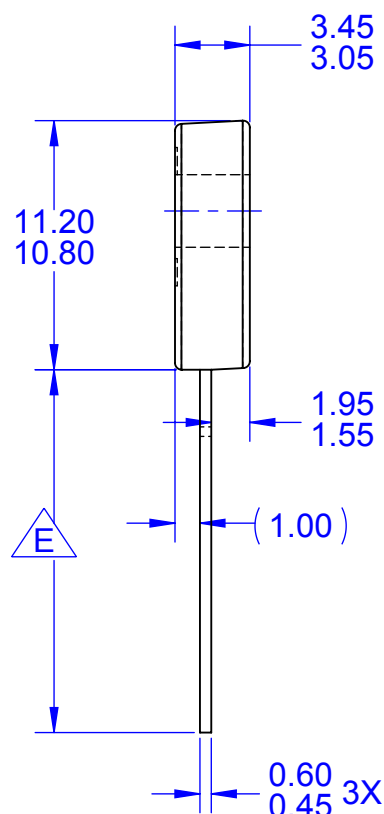


Figure 6. Derating Curve of Safe Operating Areas

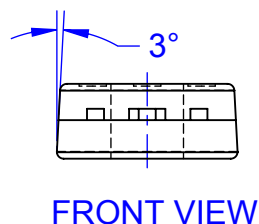
Typical characteristics (Continued)**Figure 7. Power Derating**



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

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- C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR PROTRUSIONS

 FOR TERMINAL LENGTH "D", REFER TO TABLE

 FOR TERMINAL LENGTH "E", REFER TO TABLE

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