



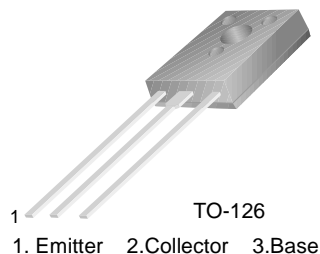
**THE DATASHEET OF  
KSB1149YS**



# KSB1149

## Low Collector Saturation Voltage Built-in Damper Diode at E-C

- High DC Current Gain
- High Power Dissipation :  $P_C=1.3W$  ( $T_a=25^\circ C$ )

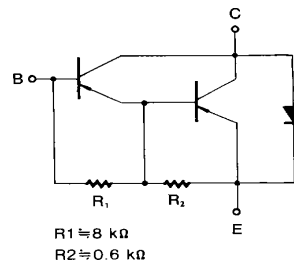


## PNP Silicon Darlington Transistor

### Absolute Maximum Ratings $T_C=25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	- 100	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 ( $T_a=25^\circ C$ )	1.3	W
$P_C$	Collector Dissipation ( $T_C=25^\circ C$ )	15	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^\circ C$

\*  $PW \leq 10ms$ , Duty Cycle  $\leq 50\%$



### Electrical Characteristics $T_C=25^\circ C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = - 100V, I_E = 0$			- 10	$\mu A$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = - 5V, I_C = 0$			- 2	mA
$h_{FE1}$ $h_{FE2}$	* DC Current Gain	$V_{CE} = - 2V, I_C = - 1.5A$ $V_{CE} = - 2V, I_C = - 3A$	2000 1000		20000	
$V_{CE(sat)}$	* 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	$V_{CC} = - 40V, I_C = - 1.5A$ $I_{B1} = - I_{B2} = - 1.5mA$ $R_L = 27\Omega$		0.5		$\mu s$
$t_{STG}$	Storage Time			2		$\mu s$
$t_F$	Fall Time			1		$\mu s$

\* Pulse test:  $PW \leq 350\mu s$ , duty Cycles  $\leq 2\%$  Pulsed

## $h_{FE}$ Classification

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

# Typical Characteristics

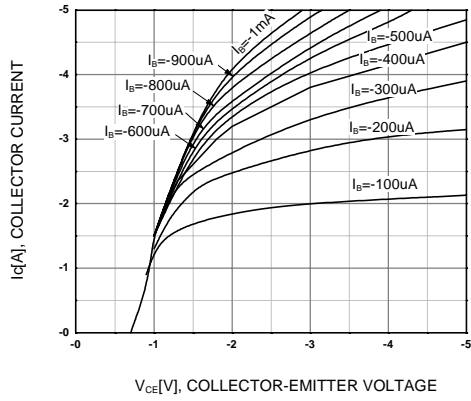


Figure 1. Static Characteristic

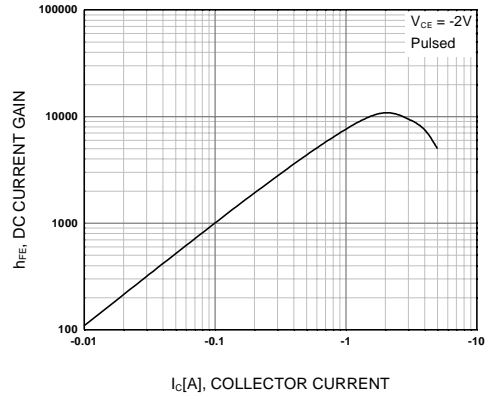


Figure 2. DC current Gain

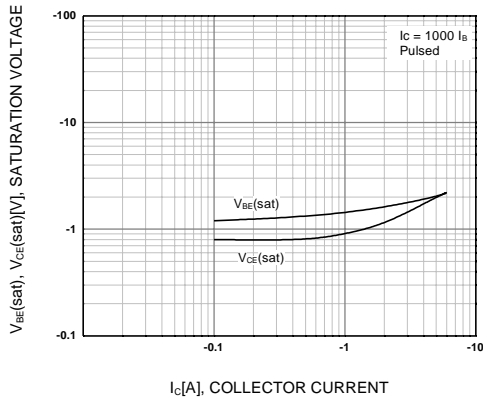


Figure 3. Collector-Emitter Saturation Voltage Base-Emitter Saturation Voltage

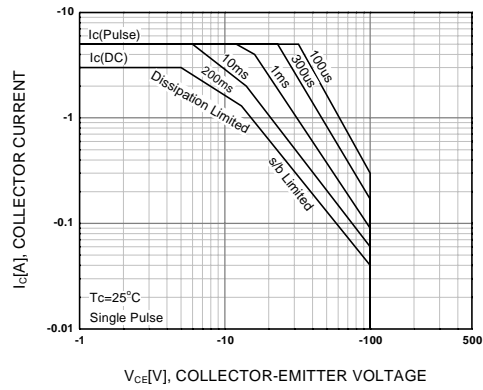


Figure 4. Forward Bias Safe Operating Area

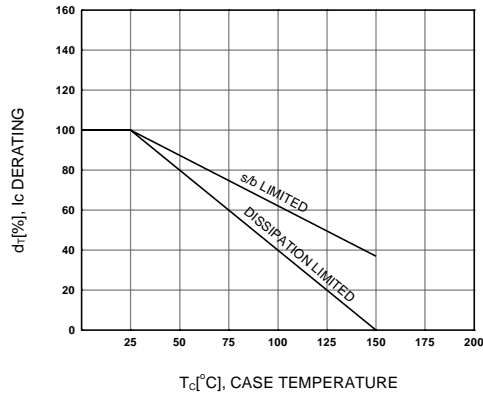


Figure 5. Derating Curve of Safe Operating Areas

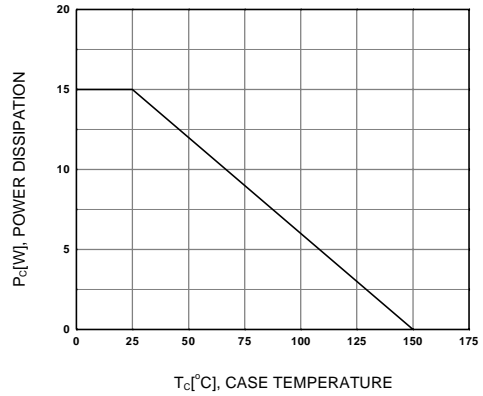


Figure 6. Power Derating

# Package Dimensions

KSB1149

## TO-126



Dimensions in Millimeters

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