

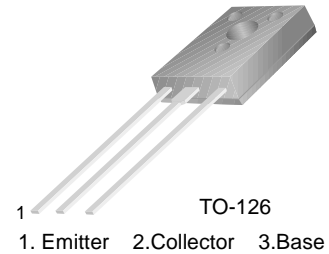


KSB1151

KSB1151

Feature

- Low Collector-Emitter Saturation Voltage
- Large Collector Current
- High Power Dissipation : $P_C=1.3W$ ($T_a=25^\circ C$)
- Complement to KSD 1691



PNP Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	- 60	V
V_{CEO}	Collector-Emitter Voltage	- 60	V
V_{EBO}	Emitter-Base Voltage	- 7	V
I_C	Collector Current (DC)	- 5	A
I_{CP}	*Collector Current (Pulse)	- 8	A
I_B	Base Current	- 1	A
P_C	Collector Dissipation ($T_a=25^\circ C$)	1.3	W
	Collector Dissipation ($T_C=25^\circ C$)	20	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	$V_{CB} = - 50V, I_E = 0$			- 10	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = - 7V, I_C = 0$			- 10	μA
h_{FE1}	* DC Current Gain	$V_{CE} = - 1V, I_C = - 0.1A$	60	200	400	
h_{FE2}		$V_{CE} = - 1V, I_C = - 2A$	100			
h_{FE3}		$V_{CE} = - 2V, I_C = - 5A$	50			
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = - 2A, I_B = - 0.2A$		- 0.14	- 0.3	V
$V_{BE(sat)}$	* Base-Emitter Saturation Voltage	$I_C = - 2A, I_B = - 0.2A$		- 0.9	- 1.2	V
t_{ON}	Turn On Time	$V_{CC} = - 10V, I_C = - 2A$ $I_{B1} = - I_{B2} = 0.2A$ $RL = 5\Omega$		0.15	1	μs
t_{STG}	Storage Time			0.78	2.5	μs
t_F	Fall Time			0.18	1	μs

* Pulse test: $PW \leq 350\mu s$, Duty Cycle $\leq 2\%$ Pulsed

h_{FE} Classification

Classification	O	Y	G
h_{FE2}	100 ~ 200	160 ~ 320	200 ~ 400

Typical Characteristics

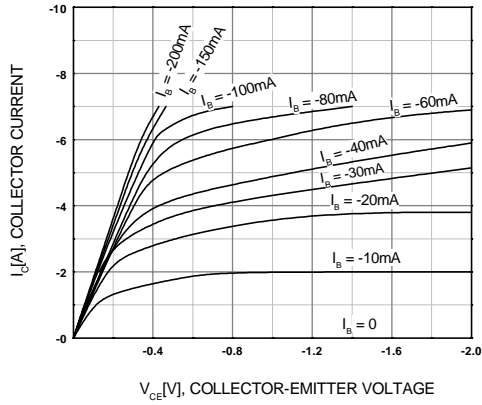


Figure 1. Static Characteristic

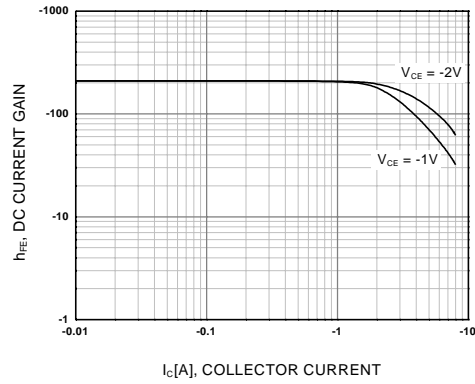


Figure 2. DC current Gain

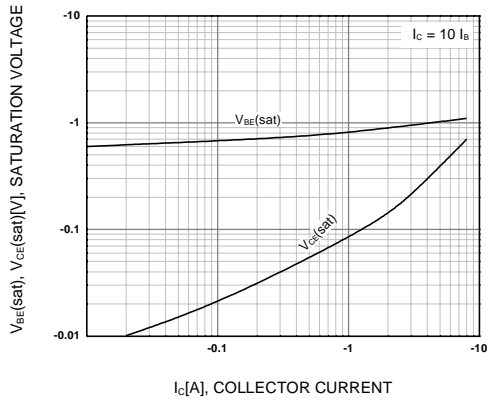


Figure 3. Collector-Emitter Saturation Voltage Base-Emitter Saturation Voltage

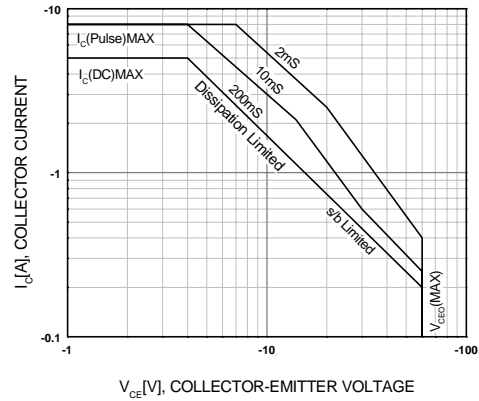


Figure 4. Forward Bias Operating Area

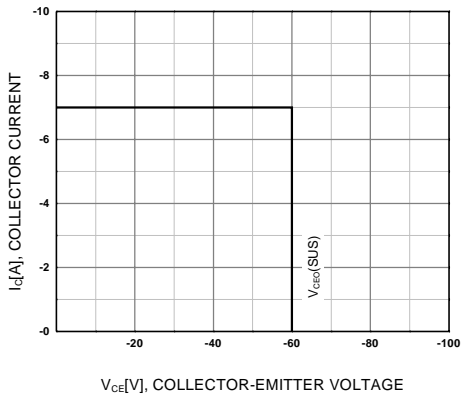


Figure 5. Reverse Bias Safe Operating Area

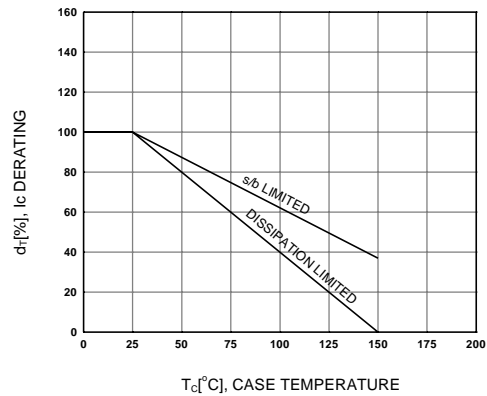


Figure 6. Derating Curve of Safe Operating Areas

Typical Characteristics (Continued)

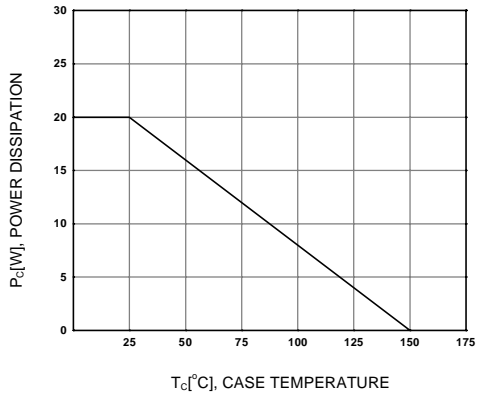
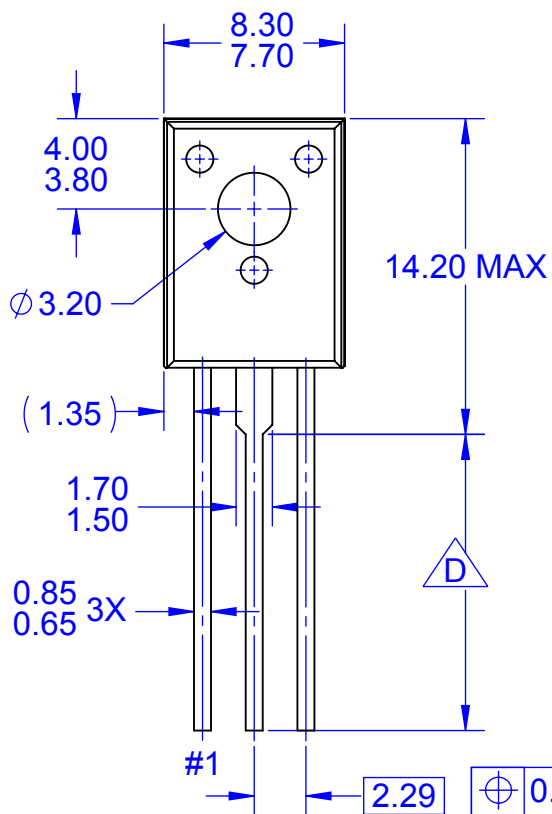
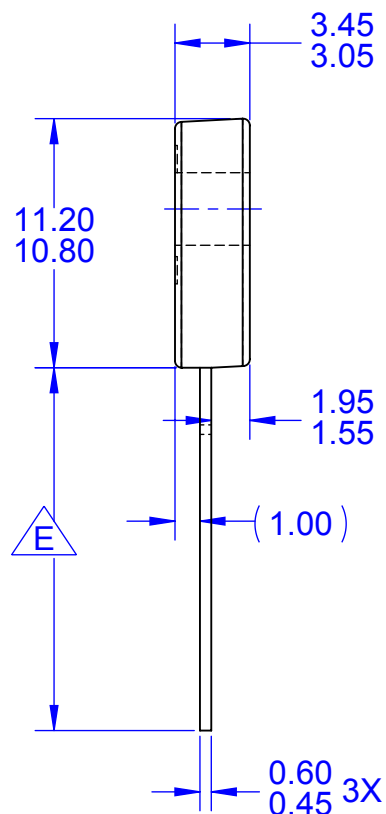


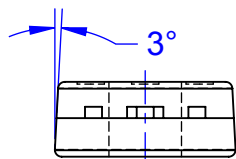
Figure 7. Power Derating



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

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

$\triangle D$ FOR TERMINAL LENGTH "D", REFER TO TABLE

$\triangle E$ FOR TERMINAL LENGTH "E", REFER TO TABLE

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