

KSD1691

Feature

- Low Collector-Emtter Saturation Voltage & Large Collector Current
- High Power Dissipation: P_C = 1.3W (T_a=25°C)
 Complementary to KSB1151



NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°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	А
I _{CP}	*Collector Current (Pulse)	8	А
I _B	Base Current (DC)	1	Α
P _C	Collector Dissipation (T _a =25°C)	1.3	W
P _C	Collector Dissipation (T _C =25°C)	20	W
T _J	Junction Temperature	150	°C
T _{STG}	Storage Temperature	- 55 ~ 150	°C

^{*} PW≤10ms, duty Cycle≤50%

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

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
I _{CBO}	Collector Cut-off Current	$V_{CB} = 50V, I_{E} = 0$			10	μΑ
I _{EBO}	Emitter Cut-off Current	$V_{EB} = 7V, I_{C} = 0$			10	μΑ
h _{FE1}	*DC Current Gain	$V_{CE} = 1V, I_{C} = 0.1A$	60			
h_{FE2}		$V_{CE} = 1V$, $I_{C} = 2A$	100		400	
h_{FE3}		$V_{CE} = 1V$, $I_C = 5A$	50			
V _{CE} (sat)	*Collector-Emitter Saturation Voltage	$I_C = 2A, I_B = 0.2A$		0.1	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	$V_{CC} = 10V, I_{C} = 2A$		0.2	1	μs
t _{STG}	Storage Time	$I_{B1} = -I_{B2} = 0.2A$		1.1	2.5	μs
t _F	Fall Time	$R_L = 5\Omega$		0.2	1	μs

^{*} Pulse test: PW≤50µs, duty Cycle≤2% Pulsed

h_{FE} Classificntion

Classification	0	Υ	G	
h _{FE 2}	100 ~ 200	160 ~ 320	200 ~ 400	

Typical Characteristics

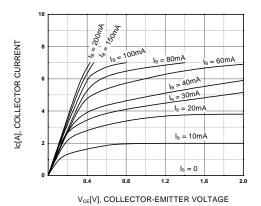


Figure 1. Static Characteristic

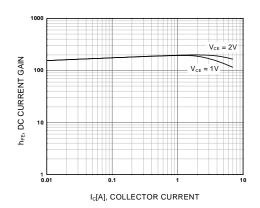


Figure 2. DC current Gain

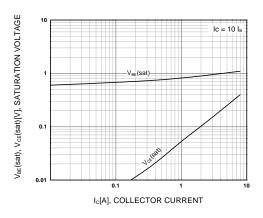


Figure 3. Collector-Emitter Saturation Voltage Base-Emitter Saturation Voltage

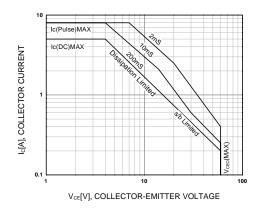


Figure 4. Forward Bias Safe Operating Area

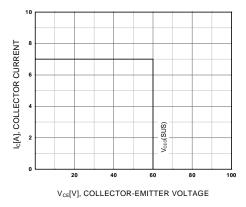


Figure 5. Reverse Bias Safe Operating Area

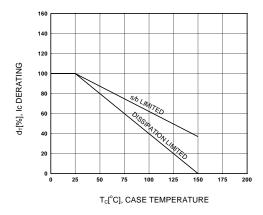


Figure 6. Derating Curve of Safe Operating Areas

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Typical Characteristics (Continued)

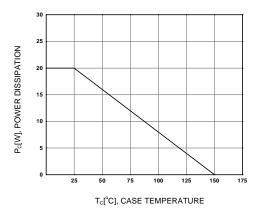
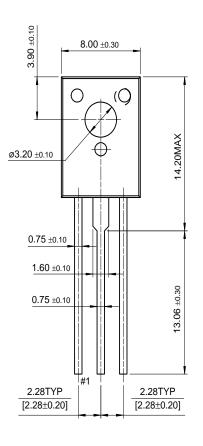


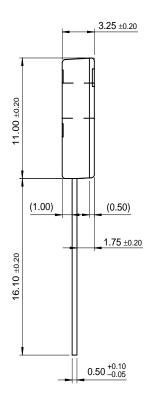
Figure 7. Power Derating

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Package Demensions

TO-126







Dimensions in Millimeters

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