

isc Silicon PNP Darlington Power Transistor
2SB1149
DESCRIPTION

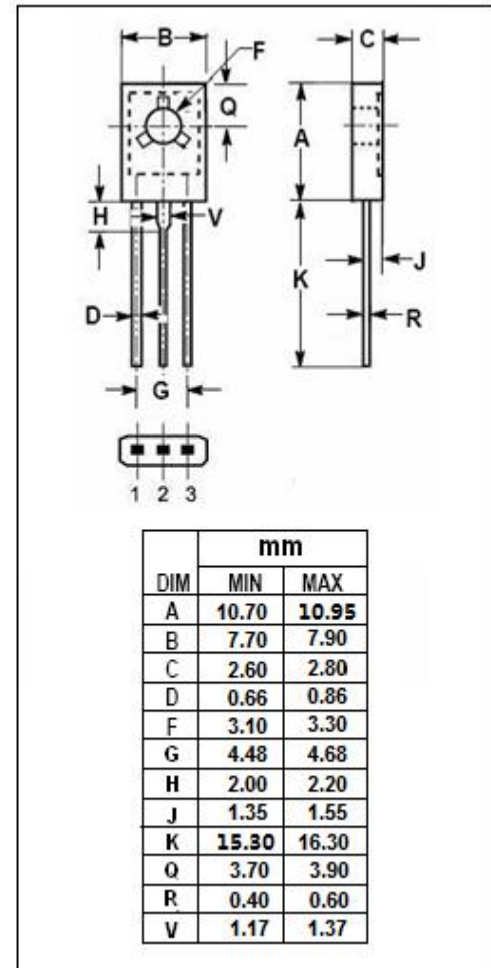
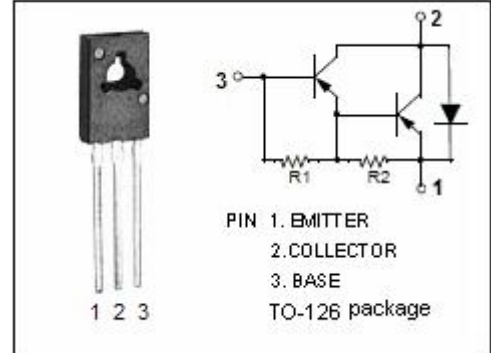
- High DC Current Gain-
: $h_{FE} = 2000(\text{Min.}) @ I_C = -1.5A$
- Low Collector Saturation Voltage-
: $V_{CE(\text{sat})} = -1.2V(\text{Max}) @ I_C = -1.5A$
- Good Linearity of h_{FE}
- With TO-126 package
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Operate from I_C without predriver applications.
- Hammer driver applications.

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
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-Continuous	-3	A
I_{CM}	Collector Current-Peak	-5	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	1.3	W
	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	15	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

 $T_c=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -5\text{mA}; I_B = 0$	-100			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -1.5\text{A}; I_B = -1.5\text{mA}$			-1.2	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -1.5\text{A}; I_B = -1.5\text{mA}$			-2.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -100\text{V}; I_E = 0$			-10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-1.0	mA
h_{FE-1}	DC Current Gain	$I_C = -1.5\text{A}; V_{CE} = -2\text{V}$	2000		15000	
h_{FE-2}	DC Current Gain	$I_C = -3\text{A}; V_{CE} = -2\text{V}$	1000			

◆ h_{FE-1} Classifications

M	L	K
2000-5000	3000-7000	5000-15000

Switching Times

t_{on}	Turn-on Time		0.5		μs
t_{stg}	Storage Time	$I_C = -1.5\text{A}, I_{B1} = -I_{B2} = -1.5\text{mA}, V_{CC} \approx -40\text{V}; R_L = 27\ \Omega$	2.0		μs
t_f	Fall Time		1.0		μs

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