

isc Silicon NPN Power Transistor

HLB124E

DESCRIPTION

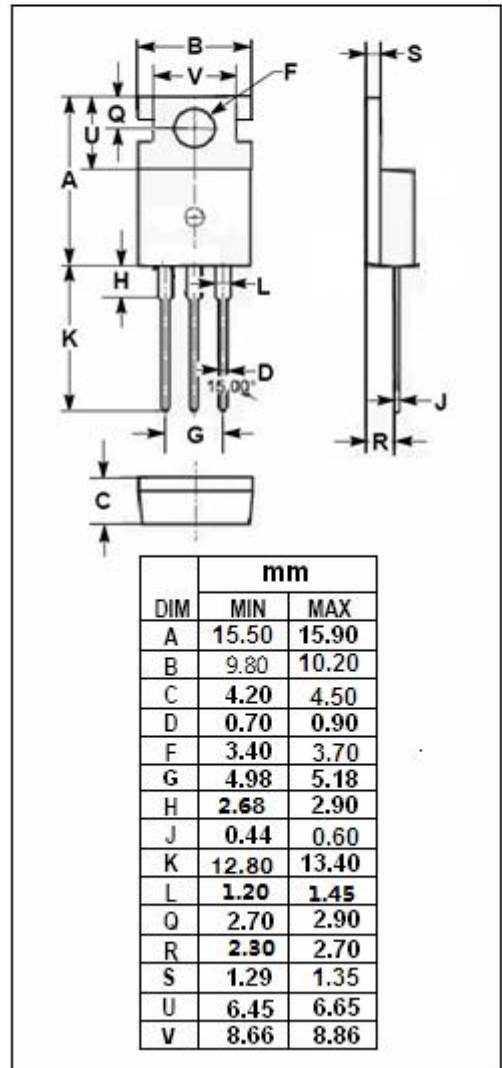
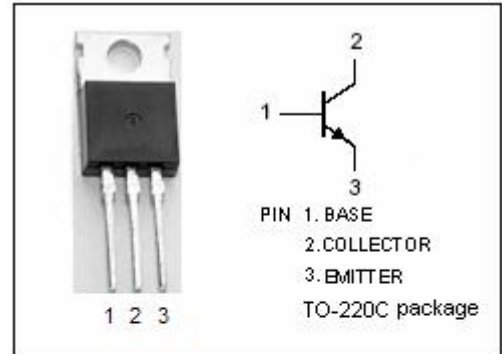
- High Speed Switching
- Low Collector Saturation Voltage
- High Reliability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for high voltage, high speed switching inductive circuits, and amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	600	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current-Continuous	2	A
I_{CP}	Collector Current-Pulse	4	A
I_B	Base Current	1	A
I_{BP}	Base Current-Pulse	2	A
P_C	Collector Power Dissipation $T_C=25^{\circ}\text{C}$	35	W
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	$I_C = 10\text{mA}; I_B = 0$	400			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 1\text{mA}; I_E = 0$	600			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 1\text{mA}; I_C = 0$	8			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = 0.1\text{A}; I_B = 10\text{mA}$			0.3	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = 0.3\text{A}; I_B = 30\text{mA}$			0.8	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C = 0.1\text{A}; I_B = 10\text{mA}$			0.9	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C = 0.3\text{A}; I_B = 30\text{mA}$			1.2	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 600\text{V}; I_E = 0$			10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 8\text{V}; I_C = 0$			10	μA
h_{FE-1}	DC Current Gain	$I_C = 0.3\text{A}; V_{CE} = 5\text{V}$	10		40	
h_{FE-2}	DC Current Gain	$I_C = 0.5\text{A}; V_{CE} = 5\text{V}$	10			
h_{FE-3}	DC Current Gain	$I_C = 1\text{A}; V_{CE} = 5\text{V}$	6			
f_T	Current-Gain—Bandwidth Product	$I_C = 0.3\text{A}; V_{CE} = 10\text{V}; f = 1\text{MHz}$	15			MHz

◆ h_{FE-1} Classifications

B1	B2	B3	B4	B5	B6
10-17	13-22	18-27	23-32	28-37	33-40

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