

isc Silicon NPN Power Transistor

BD825

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 45V(\text{Min})$
- High DC Current Gain
- Low Saturation Voltage
- Complement to Type BD826
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

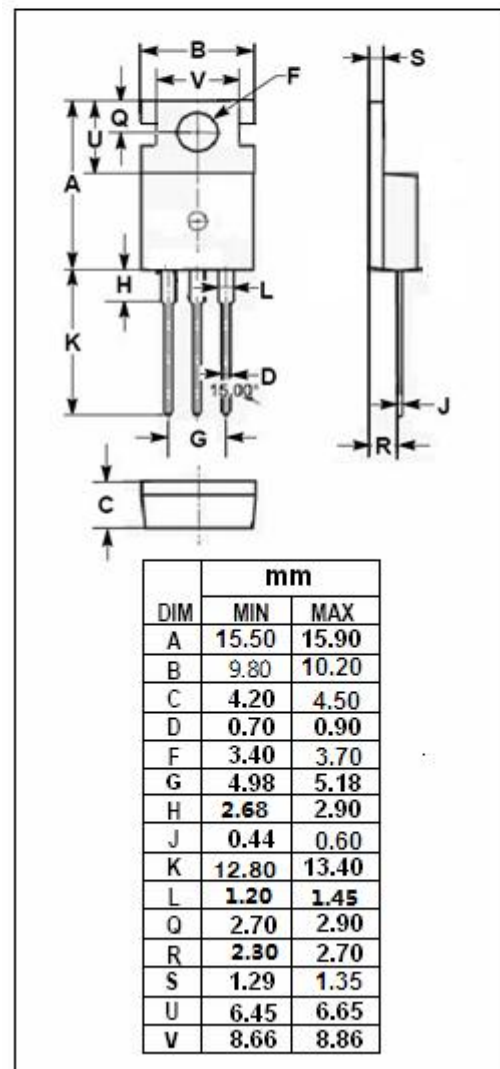
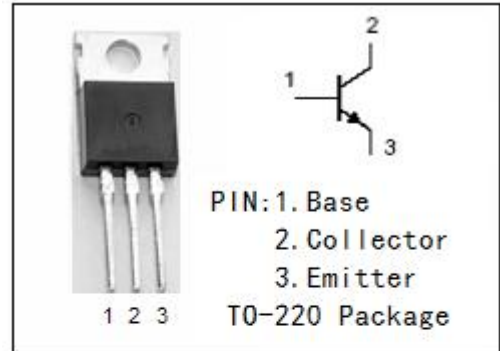
- Designed for driver-stages in hi-fi amplifiers and television circuits.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	45	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	1.0	A
I_{CP}	Collector Current-Peak	1.5	A
P_C	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	10	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	12.5	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**BD825****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Breakdown Voltage	I _C = 30mA; I _B = 0	45			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 500mA; I _B = 50mA			0.5	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 0.5A ; V _{CE} = 2V			1.0	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 30V; I _E = 0			0.1	uA
		V _{CB} = 30V; I _E = 0; T _C = 125°C			10	
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			10	uA
h _{FE-1}	DC Current Gain	I _C = 5mA ; V _{CE} = 2V	25			
h _{FE-2}	DC Current Gain	I _C = 150mA ; V _{CE} = 2V	40		250	
h _{FE-3}	DC Current Gain	I _C = 500mA ; V _{CE} = 2V	25			
f _T	Current-Gain—Bandwidth Product	I _C = 50mA ; V _{CE} = 5V		250		MHz

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