

isc Silicon NPN Power Transistor

BD245D

DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain-
: $h_{FE} > 40 @ I_C = 1A$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1V(\text{Max}) @ I_C = 3A$
- Designed for Complementary Use with the BD246D

APPLICATIONS

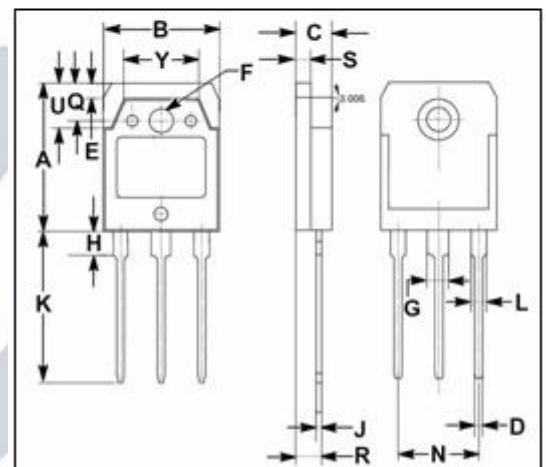
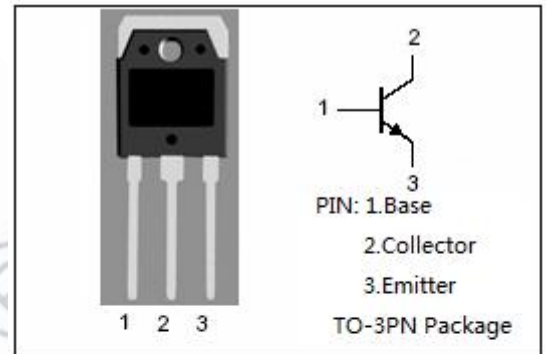
- Designed for general-purpose switching and amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	160	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-base Voltage	5	V
I_C	Collector Current-Continuous	10	A
I_B	Base Current	7	A
P_C	Collector Power Dissipation@ $T_c=25^\circ\text{C}$	80	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.56	$^\circ\text{C}/\text{W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	42	$^\circ\text{C}/\text{W}$



DIM	mm	
	MIN	MAX
A	19.60	20.30
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.20
H	3.20	3.40
J	0.595	0.605
K	19.80	20.70
L	1.90	2.20
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.100
U	5.90	6.20
Y	9.90	10.10

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}; I_B=0$	120		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.3\text{A}$		1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=2.5\text{A}$		4.0	V
$V_{BE(on)-1}$	Base-Emitter On Voltage	$I_C=3\text{A}; V_{CE}=4\text{V}$		1.6	V
$V_{BE(on)-2}$	Base-Emitter On Voltage	$I_C=10\text{A}; V_{CE}=4\text{V}$		3.0	V
I_{CEO}	Collector Cutoff Current	$V_{CE}=120\text{V}; I_B=0$		0.7	mA
I_{CBO}	Collector Cutoff Current	$V_{CB}=160\text{V}; I_E=0$		0.4	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$		1.0	mA
h_{FE-1}	DC Current Gain	$I_C=1\text{A}; V_{CE}=4\text{V}$	40		
h_{FE-2}	DC Current Gain	$I_C=3\text{A}; V_{CE}=4\text{V}$	20		
h_{FE-3}	DC Current Gain	$I_C=10\text{A}; V_{CE}=4\text{V}$	4		
f_T	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=10\text{V}; f_{test}=1.0\text{MHz}$	3.0		MHz