

isc Silicon NPN Darlington Power Transistor

BDV65/A/B/C

DESCRIPTION

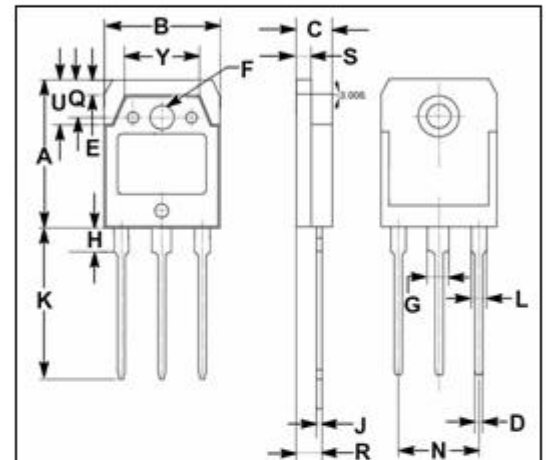
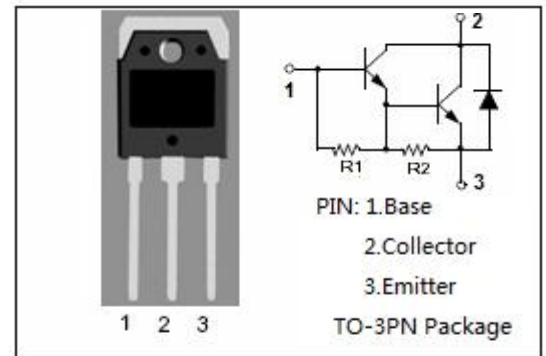
- Collector Current $-I_C = 12A$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 2.0V(\text{Max.}) @ I_C = 5A$
- Complement to Type BDV64/A/B/C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for audio output stages and general amplifier and switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BDV65	60
		BDV65A	80
		BDV65B	100
		BDV65C	120
V_{CEO}	Collector-Emitter Voltage	BDV65	60
		BDV65A	80
		BDV65B	100
		BDV65C	120
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	12	A
I_{CM}	Collector Current-Peak	15	A
I_B	Base Current-Continuous	0.5	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ C$	125	W
	Collector Power Dissipation @ $T_a = 25^\circ C$	3.5	
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-65~150	$^\circ C$



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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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.0	°C/W
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	35.7	°C/W

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	BDV65	$I_C=30\text{mA}; I_B=0$	60			V
		BDV65A		80			
		BDV65B		100			
		BDV65C		120			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		$I_C=5\text{A}; I_B=20\text{mA}$			2.0	V
$V_{BE(on)}$	Base-Emitter On Voltage		$I_C=5\text{A}; V_{CE}=4\text{V}$			2.5	V
I_{CEO}	Collector Cutoff Current		$V_{CE}=1/2 V_{CE0max}; I_B=0$			2.0	mA
I_{CBO}	Collector Cutoff Current	BDV65	$V_{CB}=40\text{V}; I_E=0; T_J=150^\circ\text{C}$			2.0	mA
		BDV65A	$V_{CB}=50\text{V}; I_E=0; T_J=150^\circ\text{C}$				
		BDV65B	$V_{CB}=60\text{V}; I_E=0; T_J=150^\circ\text{C}$				
		BDV65C	$V_{CB}=70\text{V}; I_E=0; T_J=150^\circ\text{C}$				
I_{CBO}	Collector Cutoff Current		$V_{CB}=V_{CB0max}; I_E=0$			0.4	mA
I_{EBO}	Emitter Cutoff Current		$V_{EB}=5\text{V}; I_C=0$			5	mA
h_{FE}	DC Current Gain		$I_C=5\text{A}; V_{CE}=4\text{V}$	1000			

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