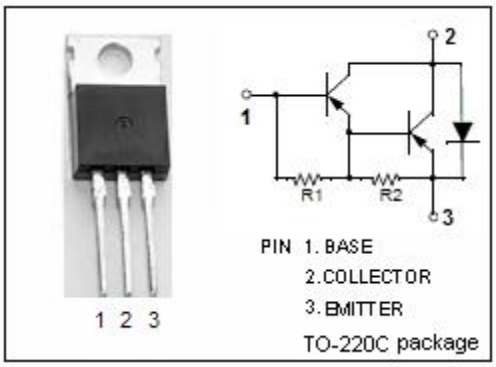
isc Silicon PNP Darlington Power Transistor BDW54

DESCRIPTION

- High DC Current Gain
  : h_{FE}= 750(Min.)@ I_C= -1.5A, V_{CE}= -3V
- High Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$ = -45V(Min)
- Low Collector Saturation Voltage
- Complement to Type BDW53
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

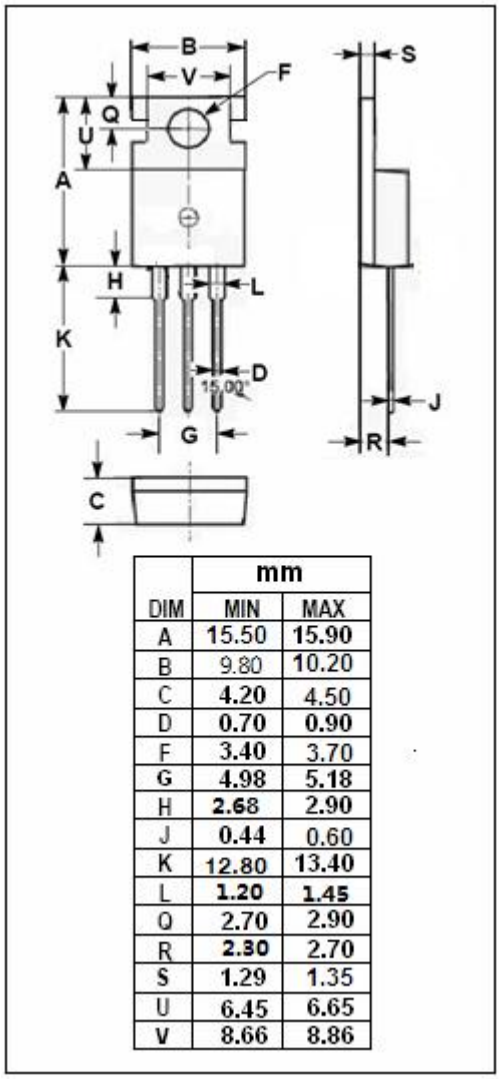
- Designed for general-purpose amplifier and low-speed switching applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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	-4	A
I_B	Base Current-DC	-50	mA
P_C	Collector Power Dissipation T_C=25℃	40	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	3.125	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	62.5	℃/W



DIM	mm MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= -30mA, I_B= 0	-45			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= -1.5A ,I_B= -30mA			-2.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation voltage	I_C= -4A ,I_B= -40mA			-4.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= -1.5A ; V_{CE}= -3V			-2.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= -45V, I_E= 0			-0.2	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= -45V, I_B= 0			-0.5	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= -5V; I_C= 0			-2	mA
h_{FE-1}	DC Current Gain	I_C= -1.5A ; V_{CE}= -3V	750		20000	
h_{FE-2}	DC Current Gain	I_C= -4A ; V_{CE}= -3V	100			
Switching Times						
t_{on}	Turn-On Time	I_C = 2A, I_{B1} = I_{B2}= 8mA; R_L= 15Ω ; V_{CC}≈ 5V		1.0		μs
t_{off}	Turn-Off Time			4.5		μs

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