

Silicon PNP Darlington Power Transistor

BD902

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
 : $V_{(BR)CEO} = -100V(\text{Min})$
- High DC Current Gain
 : $h_{FE} = 750(\text{Min}) @ I_C = -3A$
- Collector Power Dissipation-
 : $P_C = 70W @ T_C = 25^\circ C$
- 8 A Continuous Collector Current
- Complement to Type BD901

APPLICATIONS

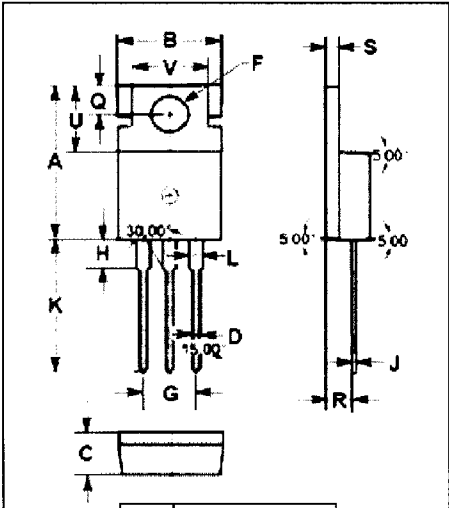
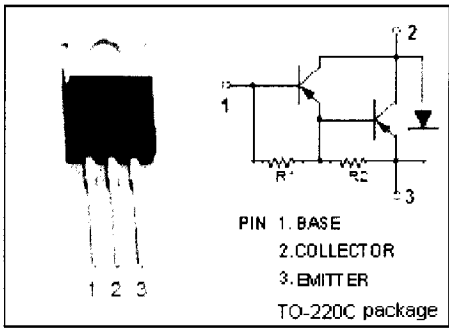
- Designed for use as complementary AF push-pull output stage applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-100	V
V_{CEO}	Collector-Emitter Voltage	-100	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-8	A
I_B	Base Current-Continuous	-0.3	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ C$	2	W
	Collector Power Dissipation @ $T_C = 25^\circ C$	70	
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-65~150	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Thermal Resistance, Junction to Case	1.79	$^\circ C/W$
$R_{th(j-a)}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ C/W$



DIM	mm	
	MIN	MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
U	6.45	6.65
V	8.66	8.86



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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	$I_C = -100\text{mA}; I_B = 0$	-100			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -3\text{A}; I_B = -12\text{mA}$			-2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -3\text{A}; V_{CE} = -3\text{V}$			-2.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -100\text{V}; I_E = 0$			-0.2	mA
		$V_{CB} = -100\text{V}; I_E = 0; T_C = 100^\circ\text{C}$			-2.0	
I_{CEO}	Collector Cutoff Current	$V_{CE} = -50\text{V}; I_B = 0$			-0.5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-2	mA
h_{FE}	DC Current Gain	$I_C = -3\text{A}; V_{CE} = -3\text{V}$	-750			

Switching Times

t_{on}	Turn-On Time	$I_C = -3\text{A}; I_{B1} = -I_{B2} = -12\text{mA};$ $V_{BE(off)} = 3.5\text{V}; R_L = 10\ \Omega;$ $t_p = 20\ \mu\text{s}; \text{DutyCycle} \leq 2\%$		1		μs
t_{off}	Turn-Off Time			5		μs