

Silicon PNP Darlington Power Transistor

BDW84D

DESCRIPTION

- Collector Current $I_C = -15A$
- High DC Current Gain $h_{FE} = 750(\text{Min}) @ I_C = -6A$
- Complement to Type BDW83D

APPLICATIONS

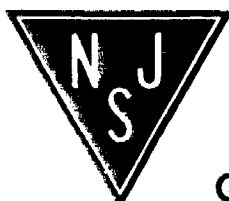
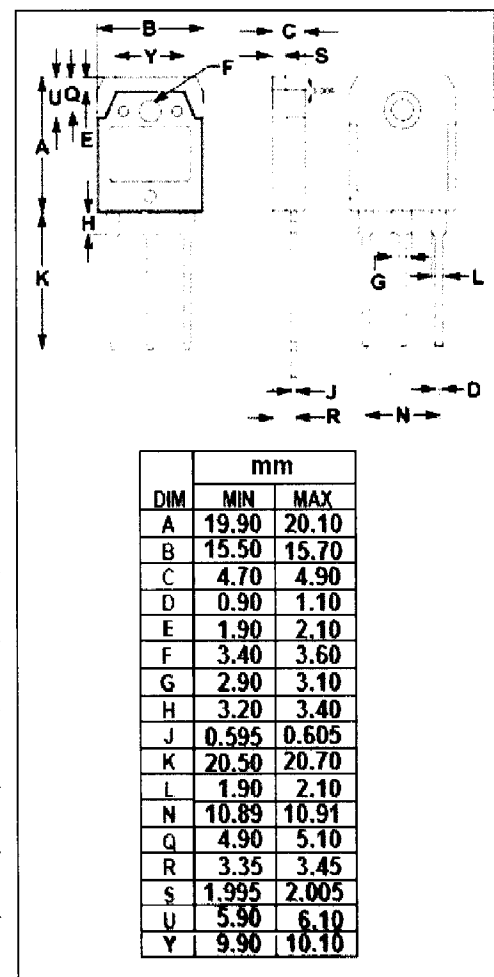
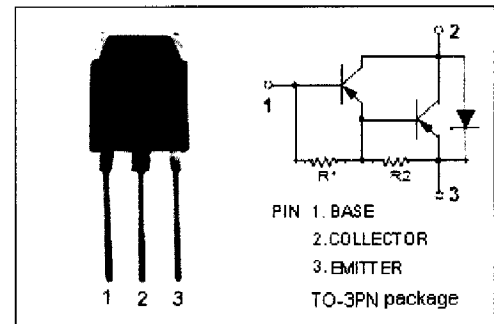
- Designed for general purpose amplifier and low speed switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CER}	Collector-Emitter Voltage	-120	V
V_{CEO}	Collector-Emitter Voltage	-120	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-15	A
I_B	Base Current-Continuous	-0.5	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ C$	3.5	W
	Collector Power Dissipation @ $T_c = 25^\circ C$	150	
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	0.83	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	35.7	$^\circ C/W$



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Quality Semi-Conductors

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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	$I_C = -30\text{mA}; I_B = 0$				V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = -6\text{A}; I_B = -12\text{mA}$			-2.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = -15\text{A}; I_B = -150\text{mA}$			-4.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -6\text{A}; V_{CE} = -3\text{V}$			-2.5	V
I_{CEO}	Collector Cutoff Current	$V_{CE} = -60\text{V}; I_B = 0$			-1.0	mA
I_{CBO}	Collector Cutoff Current	$V_{CB} = -120\text{V}; I_E = 0$ $V_{CB} = -120\text{V}; I_E = 0; T_C = 150^\circ\text{C}$			-0.5 -5.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-2.0	mA
h_{FE-1}	DC Current Gain	$I_C = -6\text{A}; V_{CE} = -3\text{V}$	750		20000	
h_{FE-2}	DC Current Gain	$I_C = -15\text{A}; V_{CE} = -3\text{V}$	100			

Switching times

t_{on}	Turn-on Time	$I_C = -10\text{A}; I_{B1} = -I_{B2} = -40\text{mA};$ $R_L = 3\ \Omega; V_{BE(OFF)} = 4.2\text{V}$		0.9		μs
t_{off}	Turn-off Time			7.0		μs