

**Silicon PNP Power Transistor**

**BDX20**

**DESCRIPTION**

- High Current Capability
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = -140V(\text{Min})$
- High Switching Speed

**APPLICATIONS**

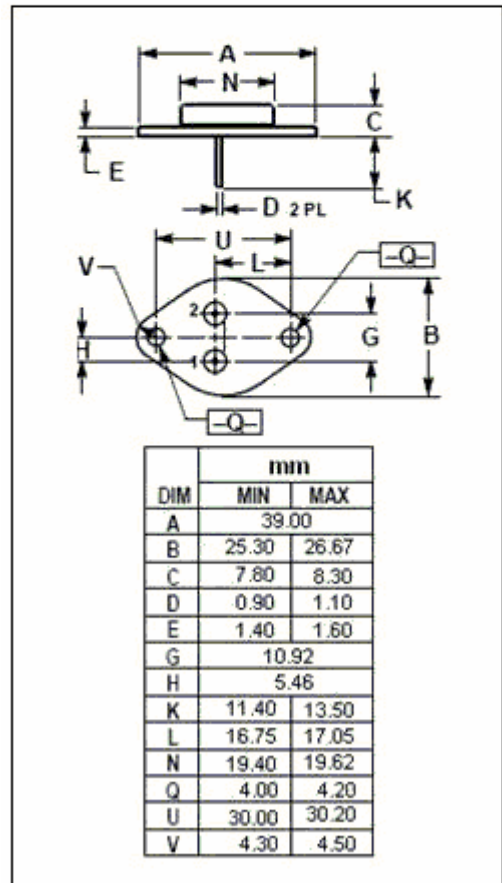
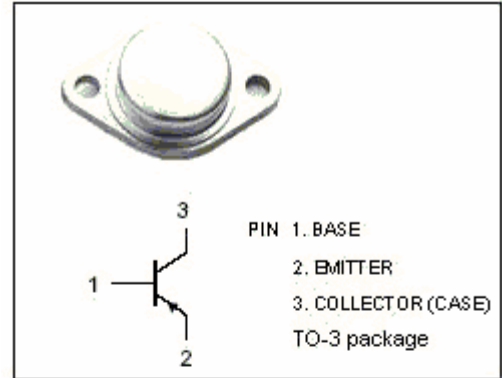
- Designed for LF large signal power amplification.

**ABSOLUTE MAXIMUM RATINGS( $T_a=25$  )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-160	V
$V_{CEX}$	Collector-Emitter Voltage- $V_{BE} = 1.5V$	-160	V
$V_{CEO}$	Collector-Emitter Voltage	-140	V
$V_{EBO}$	Emitter-Base Voltage	-7	V
$I_C$	Collector Current-Continuous	-10	A
$I_B$	Base Current-Continuous	-7	A
$P_C$	Collector Power Dissipation @ $T_C=25$	117	W
$T_J$	Junction Temperature	200	
$T_{stg}$	Storage Temperature	-65~200	

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.5	/W



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## ELECTRICAL CHARACTERISTICS

T<sub>j</sub>=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = -200mA ; I <sub>B</sub> = 0	-140			V
V <sub>CEX</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = -100mA ; V <sub>BE</sub> = 1.5V	-160			V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -3A ; I <sub>B</sub> = -0.3A			-1.0	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -10A ; I <sub>B</sub> = -2A			-5.0	V
V <sub>BE(on)-1</sub>	Base-Emitter On Voltage	I <sub>C</sub> = -3A ; V <sub>CE</sub> = -4V		-1.7		V
V <sub>BE(on)-2</sub>	Base-Emitter On Voltage	I <sub>C</sub> = -10A ; V <sub>CE</sub> = -4V		-5.7		V
I <sub>CEX</sub>	Collector Cutoff Current	V <sub>CE</sub> = -140V ; V <sub>BE</sub> = 1.5V V <sub>CE</sub> = -140V ; V <sub>BE</sub> =1.5V, T <sub>C</sub> = 150			-1.0 -10	mA
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -140V ; I <sub>E</sub> = 0			-1.0	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = -7.0V ; I <sub>C</sub> = 0			-5.0	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = -3A ; V <sub>CE</sub> = -4V	20		70	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = -10A ; V <sub>CE</sub> = -4V		10		
f <sub>T</sub>	Current Gain-Bandwidth Product	I <sub>C</sub> = -1A ; V <sub>CE</sub> = -10V ; f <sub>test</sub> = 1.0MHz	4			MHz