

# SPTECH Product Specification

## SPTECH Silicon PNP Darlington Power Transistor BDX54B

### DESCRIPTION

- Collector-Emitter Sustaining Voltage-  
:  $V_{CE(sus)} = -80V(\text{Min})$
- High DC Current Gain  
:  $h_{FE} = 750(\text{Min}) @ I_C = -3A$
- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = -2.0 V(\text{Max}) @ I_C = -3.0 A$
- Complement to Type BDX53B

### APPLICATIONS

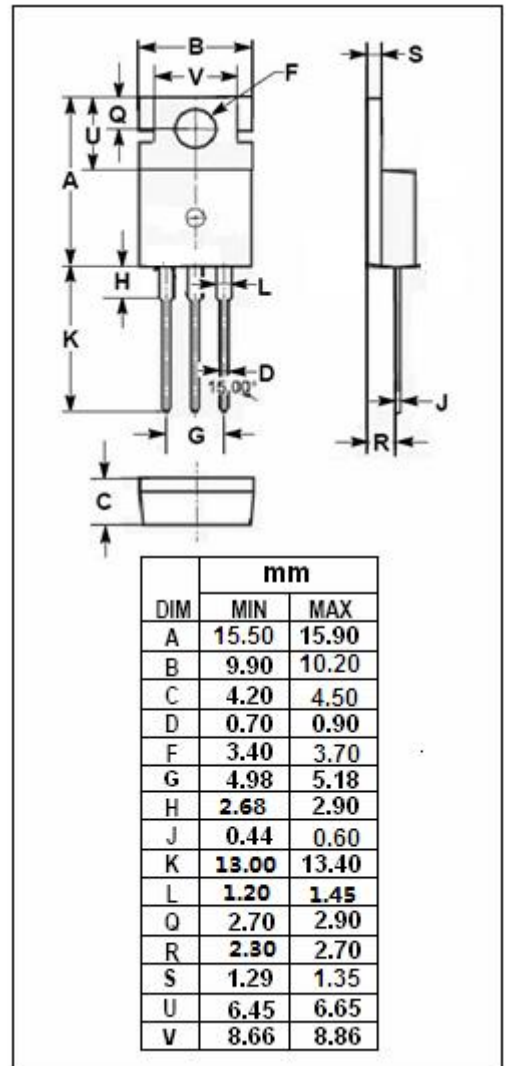
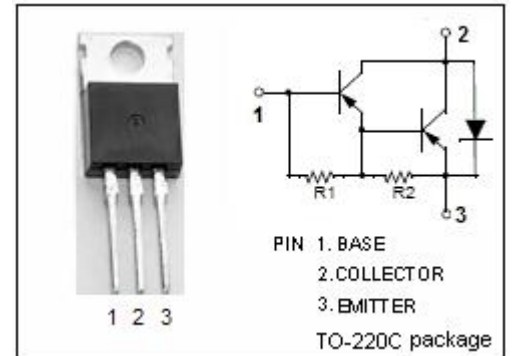
- Designed for general-purpose amplifier and low-speed switching applications.

### ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-80	V
$V_{CEO}$	Collector-Emitter Voltage	-80	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current-Continuous	-8	A
$I_{CP}$	Collector Current-Peak	-12	A
$I_B$	Base Current-Continuous	-0.2	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	60	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$

### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.92	$^\circ\text{C/W}$



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### ELECTRICAL CHARACTERISTICS

$T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Breakdown Voltage	$I_C = -50\text{mA}; I_B = 0$	-80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -3\text{A}; I_B = -12\text{mA}$			-2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -3\text{A}; I_B = -12\text{mA}$			-2.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = -80\text{V}; I_E = 0$			-0.2	mA
$I_{CEO}$	Collector Cutoff Current	$V_{CE} = -40\text{V}; I_B = 0$			-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			