

SPTECH Silicon PNP Power Transistor

BDW52/A/B/C

DESCRIPTION

- Collector Current $-I_C = -15A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = -45V(\text{Min})$ - BDW52; $-60V(\text{Min})$ - BDW52A
 $-80V(\text{Min})$ - BDW52B; $-100V(\text{Min})$ - BDW52C
- Complement to Type BDW51/A/B/C

APPLICATIONS

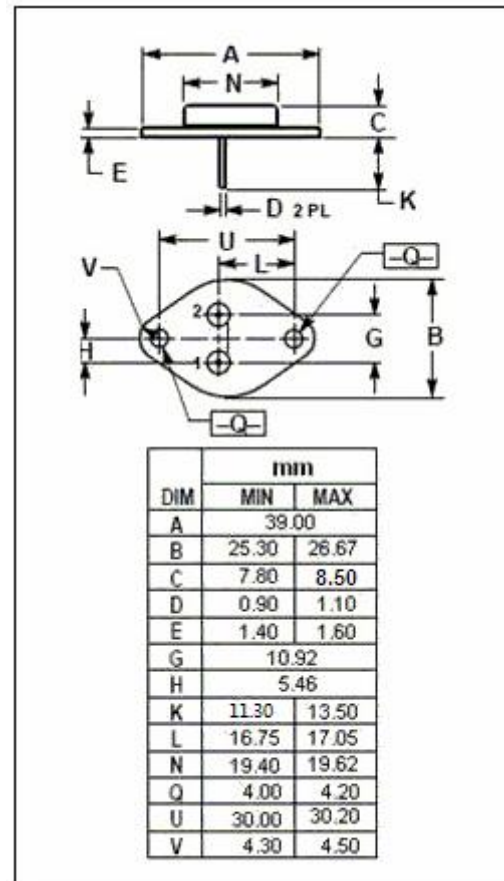
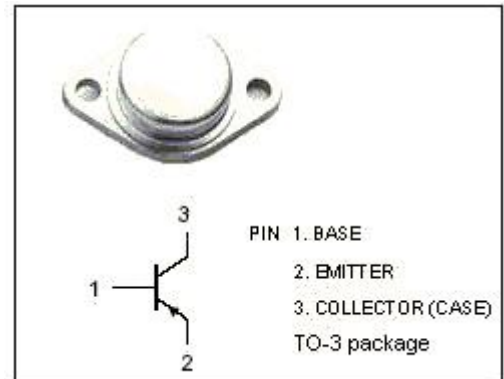
- Designed for use in power linear and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BDW52	-45
		BDW52A	-60
		BDW52B	-80
		BDW52C	-100
V_{CEO}	Collector-Emitter Voltage	BDW52	-45
		BDW52A	-60
		BDW52B	-80
		BDW52C	-100
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-15	A
I_{CM}	Collector Current-Peak	-20	A
I_B	Base Current	-7	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	125	W
T_J	Junction Temperature	200	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.4	$^\circ\text{C/W}$



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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 Sustaining Voltage	BDW52	$I_C = -30\text{mA}; I_B = 0$	-45			V
		BDW52A		-60			
		BDW52B		-80			
		BDW52C		-100			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		$I_C = -5\text{A}; I_B = -0.5\text{A}$			-1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		$I_C = -10\text{A}; I_B = -2.5\text{A}$			-3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		$I_C = -10\text{A}; I_B = -2.5\text{A}$			-2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage		$I_C = -5\text{A}; V_{CE} = -4\text{V}$			-1.5	V
I_{CBO}	Collector Cutoff Current	BDW52	$V_{CB} = -45\text{V}; I_E = 0$ $V_{CB} = -45\text{V}; I_E = 0; T_C = 150^{\circ}\text{C}$			-0.5 -5.0	mA
		BDW52A	$V_{CB} = -60\text{V}; I_E = 0$ $V_{CB} = -60\text{V}; I_E = 0; T_C = 150^{\circ}\text{C}$			-0.5 -5.0	
		BDW52B	$V_{CB} = -80\text{V}; I_E = 0$ $V_{CB} = -80\text{V}; I_E = 0; T_C = 150^{\circ}\text{C}$			-0.5 -5.0	
		BDW52C	$V_{CB} = -100\text{V}; I_E = 0$ $V_{CB} = -100\text{V}; I_E = 0; T_C = 150^{\circ}\text{C}$			-0.5 -5.0	
I_{CEO}	Collector Cutoff Current	BDW52	$V_{CE} = -22\text{V}; I_B = 0$			-1.0	mA
		BDW52A	$V_{CE} = -30\text{V}; I_B = 0$				
		BDW52B	$V_{CE} = -40\text{V}; I_B = 0$				
		BDW52C	$V_{CE} = -50\text{V}; I_B = 0$				
I_{EBO}	Emitter Cutoff Current		$V_{EB} = -5\text{V}; I_C = 0$			-2.0	mA
h_{FE-1}	DC Current Gain		$I_C = -5\text{A}; V_{CE} = -4\text{V}$	20		150	
h_{FE-2}	DC Current Gain		$I_C = -10\text{A}; V_{CE} = -4\text{V}$	5			
f_T	Current Gain-Bandwidth Product		$I_C = -0.5\text{A}; V_{CE} = -4\text{V}$	3			MHz