

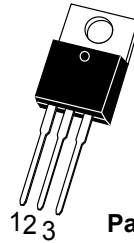
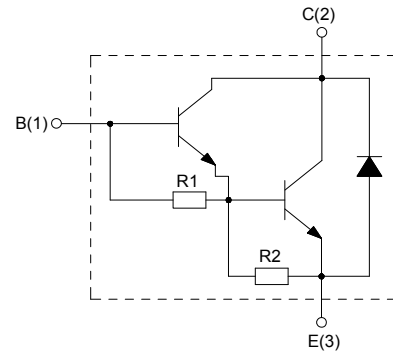
#### ■ Features

$I_C$	12A
$V_{CEO}$	100V
$P_C(TO-220AB)$	80W

#### ■ DESCRIPTION

The BDW93C is a silicon NPN power transistor in monolithic darlington configuration, mounted in TO-220B and TO-220C plastic package. It is intended for use in power linear and switching applications.

#### ■ Equivalent Circuit



Package:TO-220AB

#### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage temperature range	$T_{stg}$	-65 to 150	°C
Max. operating junction temperature	$T_j$	150	°C
Collector-emitter voltage ( $I_B=0$ )	$V_{CEO}$	100	V
Collector-base voltage ( $I_E=0$ )	$V_{CBO}$	100	V
Emitter-base voltage ( $I_C=0$ )	$V_{EBO}$	5	V
Collector current	$I_C$	12	A
Collector peak current	$I_{CM}$	15	A
Base current	$I_B$	0.2	A
Total dissipation at $T_c \leq 25^\circ\text{C}$ $T_a \leq 25^\circ\text{C}$	$P_{tot}$	80 0.64	W



### ELECTRICAL CHARACTERISTICS ( $T_c=25^\circ\text{C}$ unless otherwise specified)

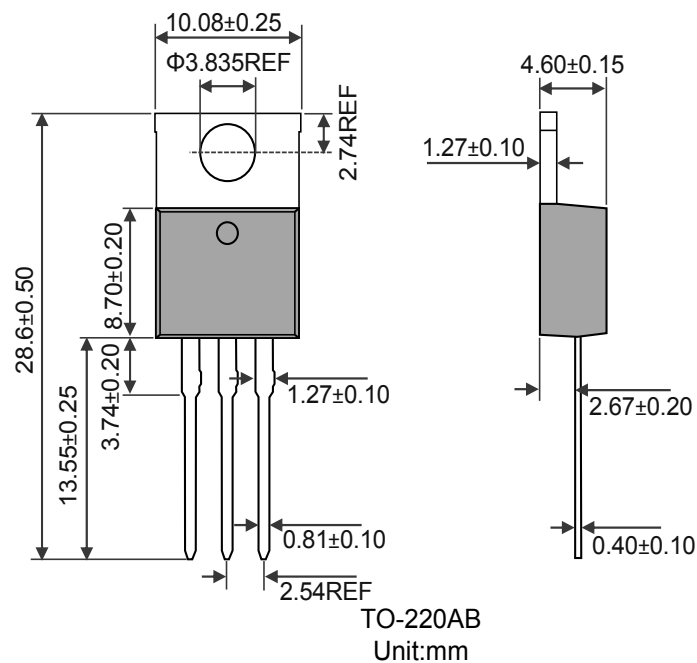
Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
$I_{CEO}$	$I_B=0$ $V_{CE} = 100V$	-	-	0.2	mA
$I_{CBO}$	$I_E=0$ $V_{CB} = 100V$	-	-	0.1	mA
$I_{EBO}$	$I_C=0$ $V_{EB}=5V$	-	-	2	mA
$V_{CEO(SUS)}^*$	$I_B=0$ $I_C=100mA$	100	-	-	V
$V_{CE(sat)}^*$	$I_C=5A$ $I_B=20mA$ $I_C=10A$ $I_B=100mA$	-	-	2 3	V
$V_{BE}^*$	$I_C=4A$ $V_{CE}=4V$	-	-	2.5	V
$h_{FE}^*$	$I_C=3A$ $V_{CE}=3V$ $I_C=5A$ $V_{CE}=3V$ $I_C=10A$ $V_{CE}=3V$	1000 750 100	-	20K	
$V_F^*$	$I_F=5A$ $I_F=10A$		1.3 1.8	2 4	V
* Pulsed: pulse duration = 300 $\mu$ s, duty cycle 1.5%					

### THERMAL RESISTANCES

Symbol	Parameter	Value (Max.)	Unit
$R_{th(j-c)}$	junction to case	2.00	$^\circ\text{C/W}$
$R_{th(j-a)}$	junction to ambient	80.0	$^\circ\text{C/W}$



#### Package Outline Dimensions



#### Marking Information



“MHCHXM”= Product Logo

“Marking Code”= The Following

“XXXX”= Date Code Marking

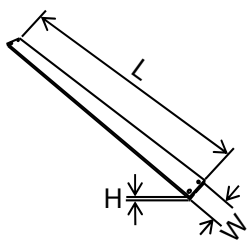
Marking Code	Part Number
BDW93C	BDW93C



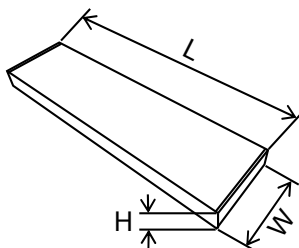
### Packing Information

Packaging	Part Number	Quantity(pcs)	Size(mm)
Tube	Tube	50	L534×W33×H7
	Inner Box	1000	L560×W150×H40
	Outer Box	5000	L570×W235×H175

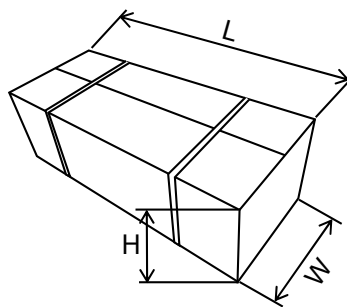
#### Packaging:Tube



Tube



Tube Inner Box



Tube Outer Box



## DISCLAIMER

1. Above specification may be changed without notice. MHCHXM will reserve authority on material change for above specification.
2. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
3. When using this product, please observe the absolute maximum ratings and the instructions for use outlined in these specification sheets. MHCHXM assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
4. These specification sheets include materials protected under copyright of MHCHXM. Reproduction in any form is prohibited without the specific consent of MHCHXM.
5. This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death. Please contact authorized MHCHXM sales agent for special application request.
6. Statements regarding the suitability of products for certain types of applications are based on MHCHXM's knowledge of typical requirements that are often placed on MHCHXM products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify MHCHXM's terms and conditions of purchase, including but not limited to the warranty expressed therein.
7. This publication supersedes & replaces all information previously supplied. For additional application information, please visit our website <http://www.jshxm.com> , or consult your nearest MHCHXM's sales office for further assistance.

