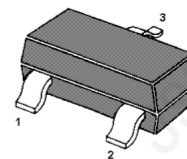


for switching and interface circuit and  
drive circuit applications

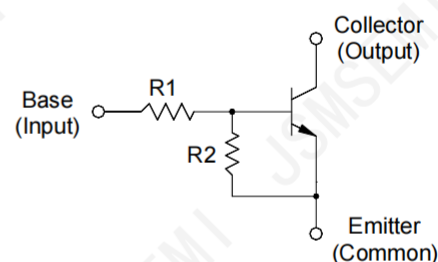


1.Base 2.Emitter 3.Collector

SOT-23 Plastic Package

### Resistor Values

Type	R1 (K)	R2 (K)
PDTC123JT,215-JSM	4.7	47



### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	50	V
Collector Emitter Voltage	$V_{CEO}$	50	V
Collector Current	$I_C$	100	mA
Total Power Dissipation	$P_{tot}$	200	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_s$	- 55 to + 150	$^\circ\text{C}$

**Characteristics at  $T_a = 25^\circ\text{C}$** 

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 10\text{ V}$ , $I_C = 5\text{ mA}$	$h_{FE}$	80	-	-
Collector Base Cutoff Current at $V_{CB} = 50\text{ V}$	$I_{CBO}$	-	100	nA
Collector Emitter Cutoff Current at $V_{CE} = 50\text{ V}$	$I_{CEO}$	-	500	nA
Emitter Base Cutoff Current at $V_{EB} = 6\text{ V}$	$I_{EBO}$	-	0.18	mA
Collector Base Breakdown Voltage at $I_C = 10\text{ }\mu\text{A}$	$V_{(BR)CBO}$	50	-	V
Collector Emitter Breakdown Voltage at $I_C = 2\text{ mA}$	$V_{(BR)CEO}$	50	-	V
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$ , $I_B = 0.3\text{ mA}$ at $I_C = 10\text{ mA}$ , $I_B = 5\text{ mA}$ at $I_C = 10\text{ mA}$ , $I_B = 1\text{ mA}$	$V_{CEsat}$	-	0.25	V

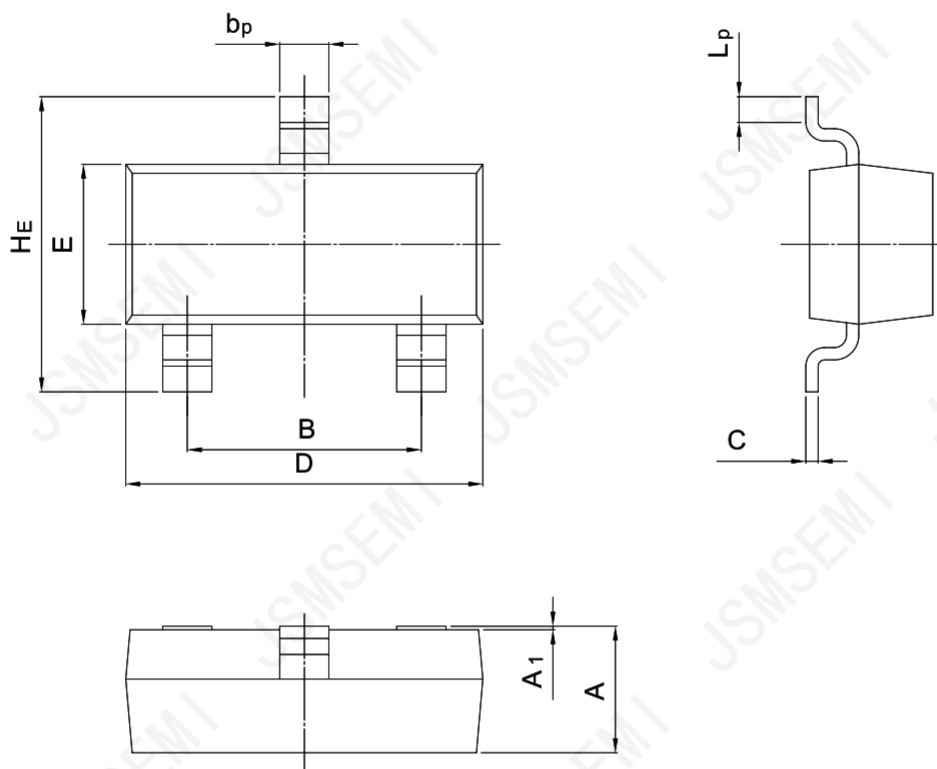
**Characteristics at  $T_a = 25^\circ\text{C}$** 

Parameter	Symbol	Min.	Max.	Unit
Output Voltage (on) at $V_{CC} = 5\text{ V}$ , $V_B = 2.5\text{ V}$ , $R_L = 1\text{ K}\Omega$ at $V_{CC} = 5\text{ V}$ , $V_B = 3.5\text{ V}$ , $R_L = 1\text{ K}\Omega$ at $V_{CC} = 5\text{ V}$ , $V_B = 5\text{ V}$ , $R_L = 1\text{ K}\Omega$	$V_{OL}$	-	0.2	V
Output Voltage (off) at $V_{CC} = 5\text{ V}$ , $V_B = 0.5\text{ V}$ , $R_L = 1\text{ K}\Omega$ at $V_{CC} = 5\text{ V}$ , $V_B = 0.05\text{ V}$ , $R_L = 1\text{ K}\Omega$ at $V_{CC} = 5\text{ V}$ , $V_B = 0.25\text{ V}$ , $R_L = 1\text{ K}\Omega$	$V_{OH}$	4.9	-	V
Input Resistor	$R_1$	15.4	28.6	$\text{K}\Omega$
Resistor Ratio	$R_1/R_2$	0.055	0.185	-

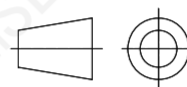
## PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	$b_p$	C	D	E	$H_E$	$A_1$	$L_p$
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20



## Revision History

Rev.	Change	Date
V1.0	Initial version	2/23/2024

## Important Notice

JSMSEMI Semiconductor (JSMSEMI) PRODUCTS ARE NEITHER DESIGNED NOR INTENDED FOR USE IN MILITARY AND/OR AEROSPACE, AUTOMOTIVE OR MEDICAL DEVICES OR SYSTEMS UNLESS THE SPECIFIC JSMSEMI PRODUCTS ARE SPECIFICALLY DESIGNATED BY JSMSEMI FOR SUCH USE. BUYERS ACKNOWLEDGE AND AGREE THAT ANY SUCH USE OF JSMSEMI PRODUCTS WHICH JSMSEMI HAS NOT DESIGNATED FOR USE IN MILITARY AND/OR AEROSPACE, AUTOMOTIVE OR MEDICAL DEVICES OR SYSTEMS IS SOLELY AT THE BUYER' S RISK.

JSMSEMI assumes no liability for application assistance or customer product design. Customers are responsible for their products and applications using JSMSEMI products.

Resale of JSMSEMI products or services with statements diferent from or beyond the parameters stated by JSMSEMI for that product or service voids all express and any implied warranties for the associated JSMSEMI product or s ervice. JSMSEMI is not responsible or liable for any such statements.

JSMSEMI All Rights Reserved. Information and data in this document are owned by JSMSEMI wholly and may not be edited, reproduced, or redistributed in any way without the express written consent from JSMSEMI.

Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the JSMSEMI product that you intend to use.

For additional information please contact Kevin@jsmsemi.com or visit www.jsmsemi.com