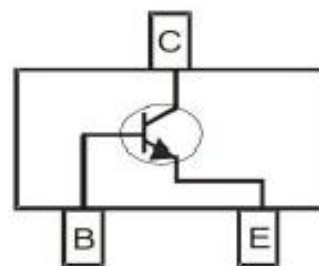


Kingtronics®**2SC1815**
BIPOLAR
TRANSISTOR (NPN)**FEATURES**

High current And High voltage
Excellent h_{FE} Linearity
Low Noise
Surface Mount device
Complementary to 2SA1015

MECHANICAL DATA

Case: SOT-23
Case Material: Molded Plastic. UL flammability
Classification Rating: 94V-0
Moisture Sensitivity: Level 1 per J-STD-020
Weight: 0.008 grams (approximate)

SOT-23**MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)**

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	150	mA
Collector Power Dissipation	P_C	200	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~+150	$^\circ\text{C}$

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

PARAMETER	SYMBOL	MIN.	TYP	MAX.	UNIT	CONDITION
Collector-base breakdown voltage	$V_{(BR)CBO}$	60			V	$I_C=100\mu\text{A}$, $I_E=0$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	50			V	$I_C=0.1\text{mA}$, $I_B=0$
Emitter-base breakdown voltage	$V_{(BR)EBO}$	5			V	$I_E=100\mu\text{A}$, $I_C=0$
Collector cut-off current	I_{CBO}			0.1	μA	$V_{CB}=60\text{V}$, $I_E=0$
Emitter cut-off current	I_{EBO}			0.1	μA	$V_{EB}=5\text{V}$, $I_C=0$
DC current gain	h_{FE}	130		400		$V_{CE}=6\text{V}$, $I_C=2\text{mA}$
Collector-emitter saturation voltage	$V_{CE(sat)}$			0.25	V	$I_C=100\text{mA}$, $I_B=10\text{mA}$
Base-emitter saturation voltage	$V_{BE(sat)}$			1	V	$I_C=100\text{mA}$, $I_B=10\text{mA}$
Transition frequency	f_T	80			MHz	$V_{CE}=10\text{V}$, $I_C=1\text{mA}$, $f=30\text{MHz}$

CLASSIFICATION OF h_{FE}

Rank	L	H
Range	130-200	200-400
Marking	HF	

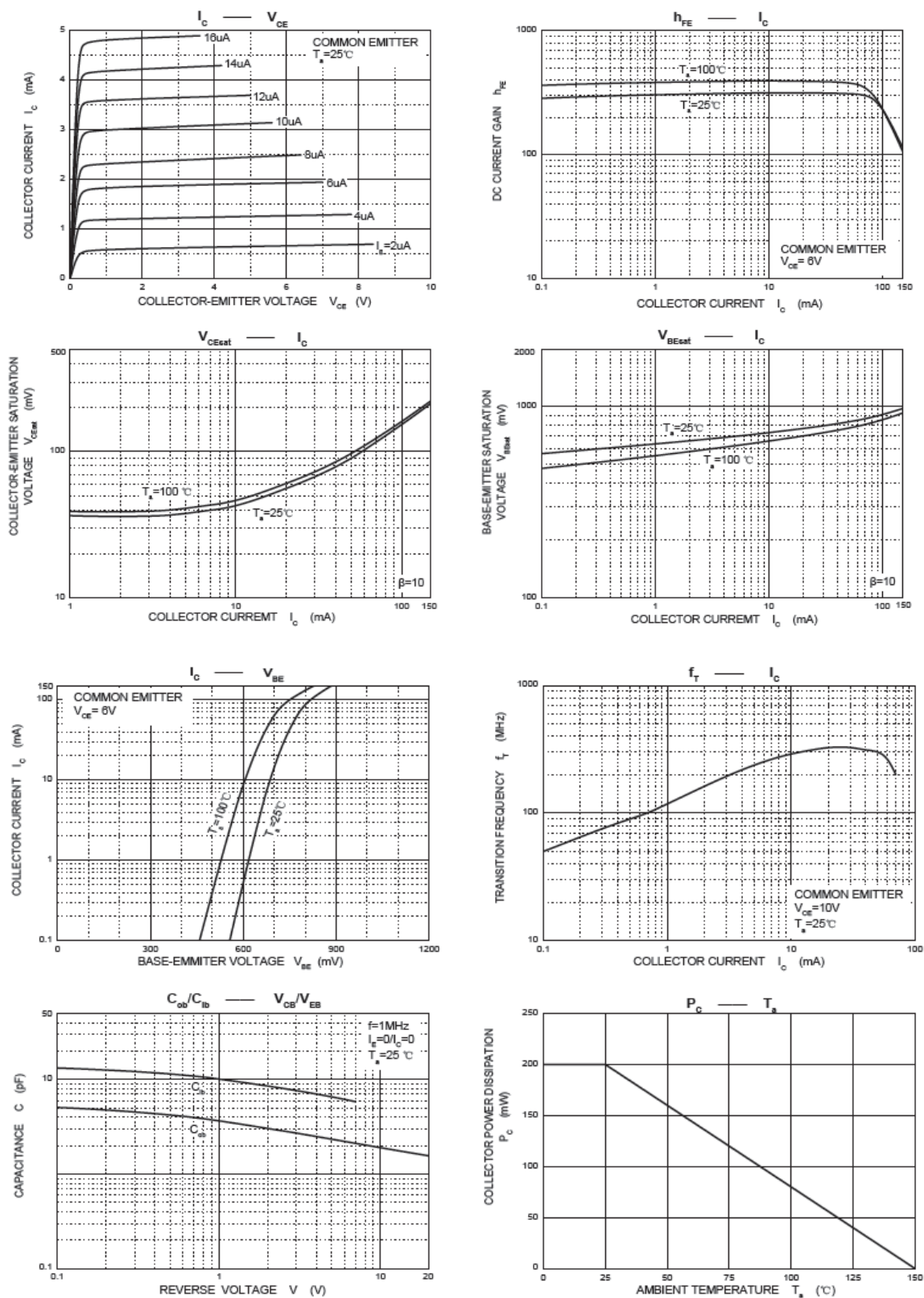
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2SC1815 BIPOLAR TRANSISTOR (NPN)

Typical Characteristics



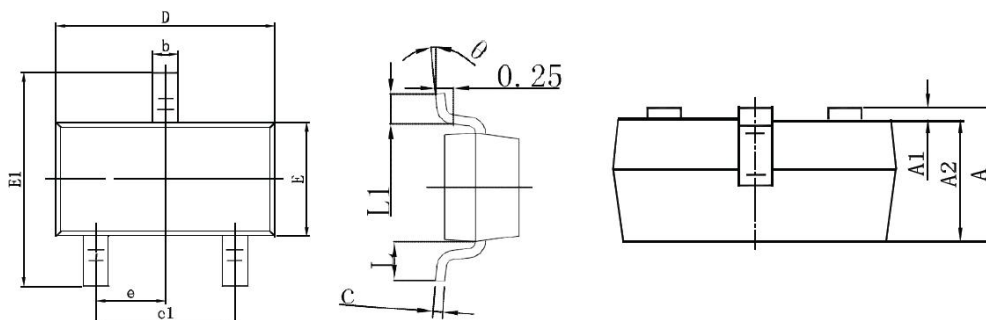
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2SC1815

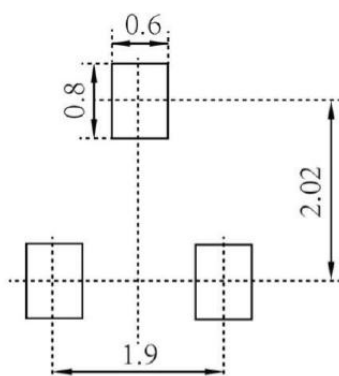
BIPOLAR
TRANSISTOR (NPN)

SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

Note: Specifications are subject to change without notice.

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