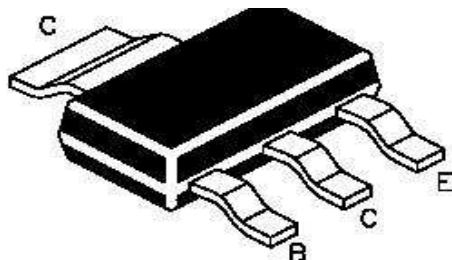


NPN SILICON PLANAR EPITAXIAL TRANSISTORS



BCP54 BCP55 BCP56

SOT-223
Formed SMD Package

General Purpose Medium Power DC Applications

Complementary BCP51 BCP52 and BCP53

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

DESCRIPTION	SYMBOL	BCP54	BCP55	BCP56	UNITS
Collector Base Voltage	V_{CBO}	45	60	100	V
Collector Emitter Voltage	V_{CEO}	45	60	80	V
Emitter Base Voltage	V_{EBO}		5.0		V
Collector Current (DC)	I_C		1.0		A
Collector Current Peak	I_{CM}		1.5		A
Base Current Peak	I_{BM}		0.2		A
Power Dissipation upto $T_{amb}=25^\circ\text{C}$	*P_D		1.33		W
Storage Temperature	T_{stg}		- 65 to +150		$^\circ\text{C}$
Junction Temperature	T_j		150		$^\circ\text{C}$
Operating Ambient Temperature	T_{amb}		- 65 to +150		$^\circ\text{C}$

THERMAL RESISTANCE

From junction to ambient	$^*R_{th(j-a)}$	94	K/W
From junction to soldering point	$R_{th(j-a)}$	13	K/W

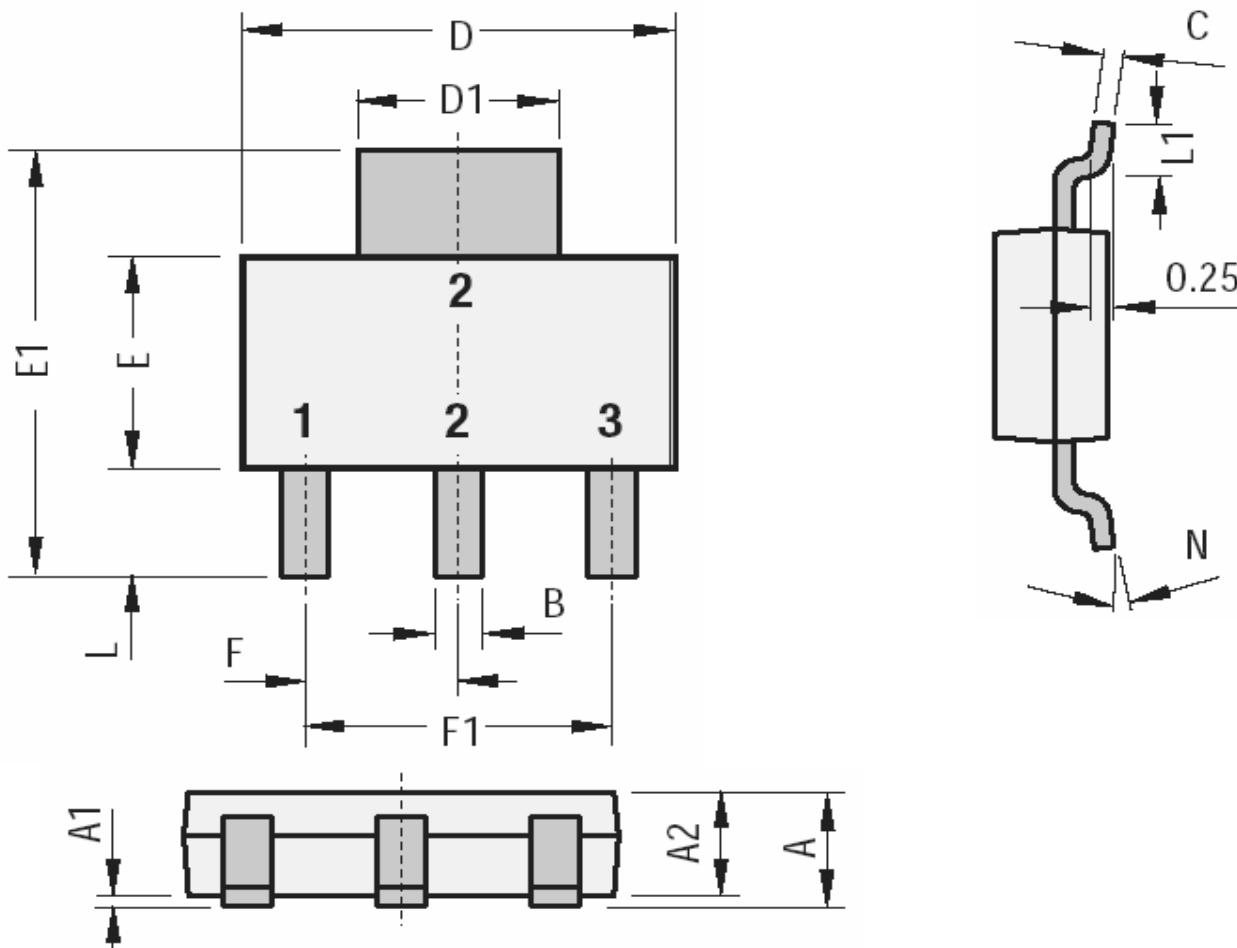
* Device Mounted on printed circuit board, single sided copper, tinplated, mounting pad for collector 1 cm².

ABSOLUTE MAXIMUM RATINGS ($T_{amb}=25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Cut Off Current	I_{CBO}	$V_{CB}=30\text{V}$, $I_E=0$ $V_{CB}=30\text{V}$, $I_E=0$, $T_j=125^\circ\text{C}$			100 10	nA μA
Emitter Cut Off Current	I_{EBO}	$V_{EB}=5\text{V}$, $I_C=0$			100	nA
DC Current Gain	h_{FE}	$I_C=5\text{mA}$, $V_{CE}=2\text{V}$ $I_C=150\text{mA}$, $V_{CE}=2\text{V}$ $I_C=500\text{mA}$, $V_{CE}=2\text{V}$	63 63 40		250	
DC Current Gain	h_{FE}	$I_C=150\text{mA}$, $V_{CE}=2\text{V}$ Group -10 Group -16	63 100		160 250	
Collector Emitter Saturation Voltage	$V_{CE(\text{sat})}$	$I_C=0.5\text{A}$, $I_B=50\text{mA}$			0.5	V
Base Emitter On Voltage	$V_{BE(\text{on})}$	$I_C=0.5\text{A}$, $V_{CE}=2\text{V}$			1.0	V
Transition Frequency	f_T	$I_C=10\text{mA}$, $V_{CE}=5\text{V}$, $f=100\text{MHz}$		130		MHz
DC Current Gain Ratio of the Complementary Pairs	h_{FE1}/h_{FE2}	$I_C=150\text{mA}$, $V_{CE}=2\text{V}$			1.6	

SOT-223
Formed SMD Package

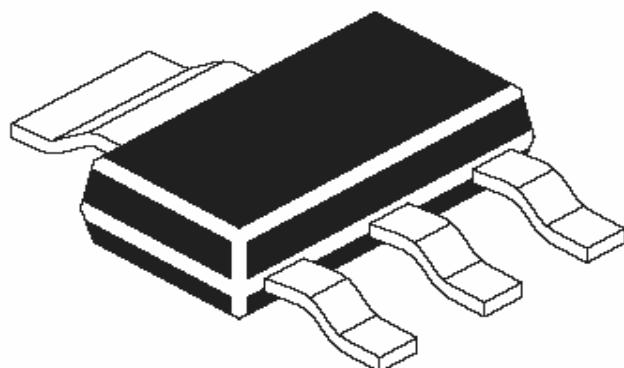
SOT-223 SMD Plastic Package



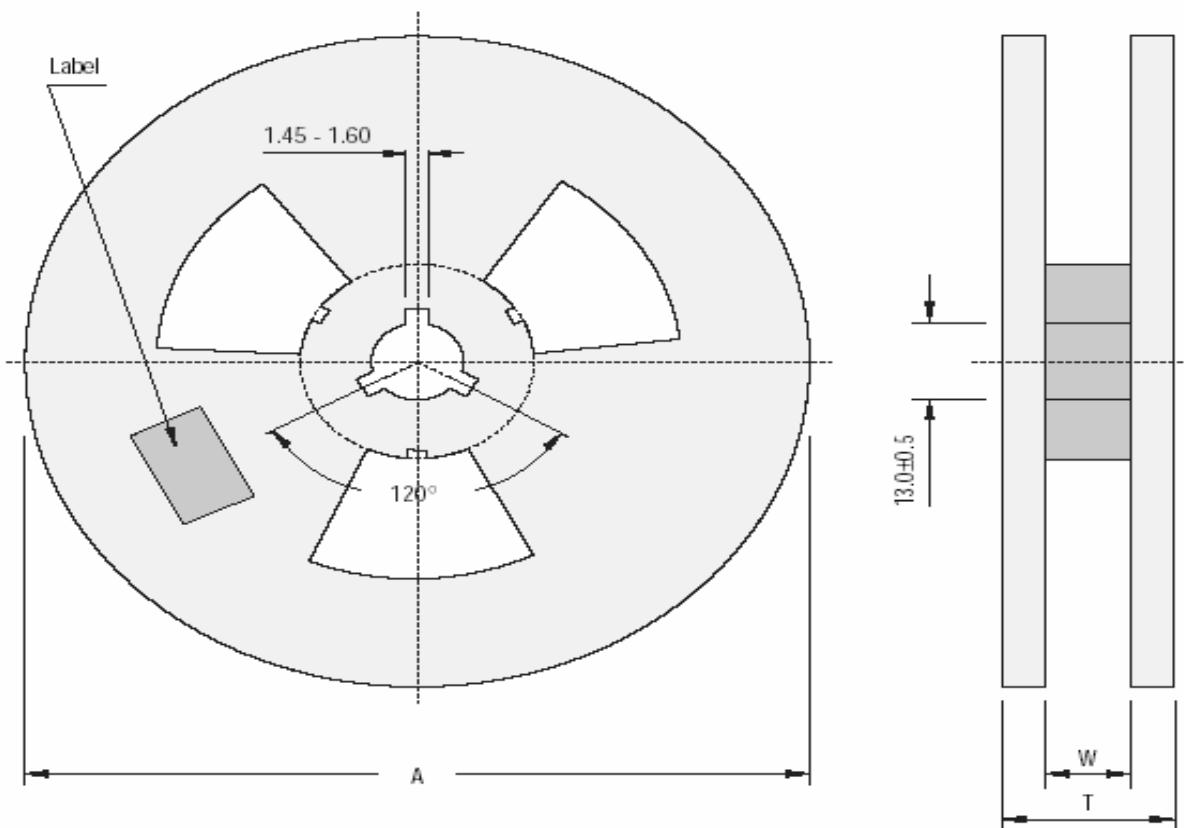
DIM	Min	Max
A	1.52	1.80
A1	0.02	0.10
A2	1.50	1.70
B	0.61	0.81
C	0.25	0.35
D	6.30	6.70
D1	2.90	3.10

DIM	Min	Max
E	3.30	3.70
E1	6.70	7.30
F	2.30 Typ	
F1	4.50	4.70
L	1.76 Typ	
L1	0.90	
N	0.00	10.00

All Dimensions are in mm



Reel Dimensions and Components/Reel for SMD Package



Reel Specifications				
Package	Tape Width	Reel Dia. A - Max	Inside Thickness W	Reel Thickness T - max
SOT-223	12	180	12.4 ± 2	18.4
	12	330	12.4 ± 2	18.4

All Dimensions are in mm

Packaging Information

Package/	Packaging Type	Std. Packing	Inner Carton			Outer Carton		
			Qty	Qty	Size L x W x H (cm)	Gross Weight (Kg)	Qty	Size L x W x H (cm)
SOT-223	T & R	1,000						
	T & R	4,000						

T & R: Tape and Reel

Component Disposal Instructions

- CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
- In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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