

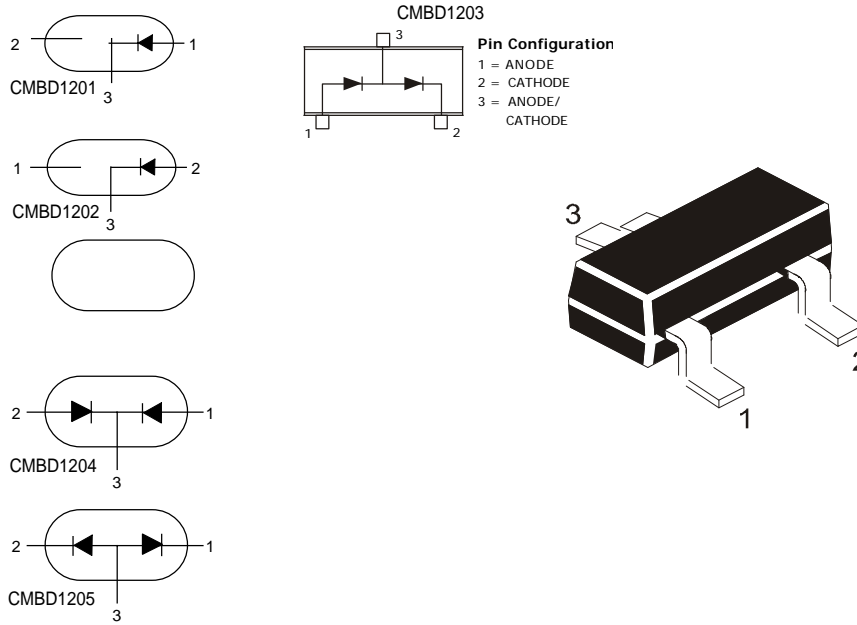
SOT-23 Formed SMD Package

**CMBD1201, 1202, 1203
CMBD1204, 1205**

SILICON PLANAR EPITAXIAL HIGH SPEED DIODES

CMBD1201, 1202, are all single diodes
CMBD1203 is a dual diode, in series
CMBD1204 is a dual diode, common cathode
CMBD1205 is a dual diode, common anode

Marking	CMBD1203 - 26
CMBD1201 - 24	CMBD1204 - 27
CMBD1202 - 25	CMBD1205 - 28



ABSOLUTE MAXIMUM RATINGS (per diode)

<i>Continuous reverse voltage</i>	V_R	max.	75 V
<i>Repetitive peak reverse voltage</i>	V_{RRM}	max.	100 V
<i>Repetitive peak forward current</i>	I_{FRM}	max.	500 mA
<i>Forward current</i>	I_F	max.	215 mA
<i>Junction temperature</i>	T_j	max.	150 °C
<i>Forward voltage at $I_F = 10$ mA</i>	V_F	<	0.855 V

Reverse recovery time when switched from

$I_F = 10 \text{ mA}$ to $I_R = 10 \text{ mA}$; $R_L = 100 \ \Omega$;
measured at $I_R = 1 \text{ mA}$

$t_{rr} < 4 \text{ ns}$

RATINGS (per diode) (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Limiting values

Continuous reverse voltage

V_R max. 75 V

Repetitive peak reverse voltage

V_{RRM} max. 100 V

Repetitive peak forward current

I_{FRM} max. 500 mA

Forward current

I_F max. 215 mA

Non-repetitive peak forward current (per crystal)

$t = 1 \ \mu\text{s}$

I_{FSM} max. 4 A

$t = 1 \ \text{ms}$

I_{FSM} max. 1.0 A

$t = 1 \ \text{s}$

I_{FSM} max. 0.5 A

Storage temperature

T_{stg} -55 to +150 °C

Junction temperature

T_j max. 150 °C

THERMAL RESISTANCE

From junction to ambient

$R_{th \ j-a} = 500 \ \text{K/W}$

CHARACTERISTICS (per diode)

$T_j = 25 \ ^\circ\text{C}$ unless otherwise specified

Forward voltage

$I_F = 10 \ \text{mA}$

$V_F < 0.855 \ \text{V}$

$I_F = 200 \ \text{mA}$

$V_F < 1.10 \ \text{V}$

Reverse currents

$V_R = 20 \ \text{V}$

$I_R < 25 \ \text{nA}$

$V_R = 75 \ \text{V}$

$I_R < 5 \ \mu\text{A}$

$V_R = 25 \ \text{V}$; $T_j = 150 \ ^\circ\text{C}$

$I_R < 30 \ \mu\text{A}$

Forward recovery voltage

$I_F = 10 \ \text{mA}$; $t_p = 20 \ \text{ns}$

$V_{fr} < 1.75 \ \text{V}$

Recovery charge

$I_F = 10 \ \text{mA}$ to $V_R = 5\text{V}$; $R = 100 \ \Omega$

$Q_s < 45 \ \text{pC}$

Diode capacitance

$V_R = 0$; $f = 1 \ \text{MHz}$

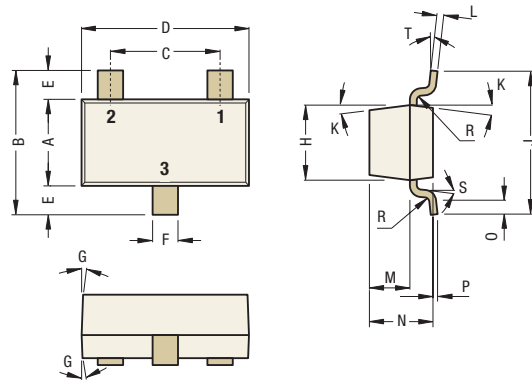
$C_d < 2 \ \text{pF}$

Reverse recovery time when switched from

$I_F = 10 \ \text{mA}$ to $I_R = 10 \ \text{mA}$; $R_L = 100 \ \Omega$;
measured at $I_R = 1 \ \text{mA}$

$t_{rr} < 4 \ \text{ns}$

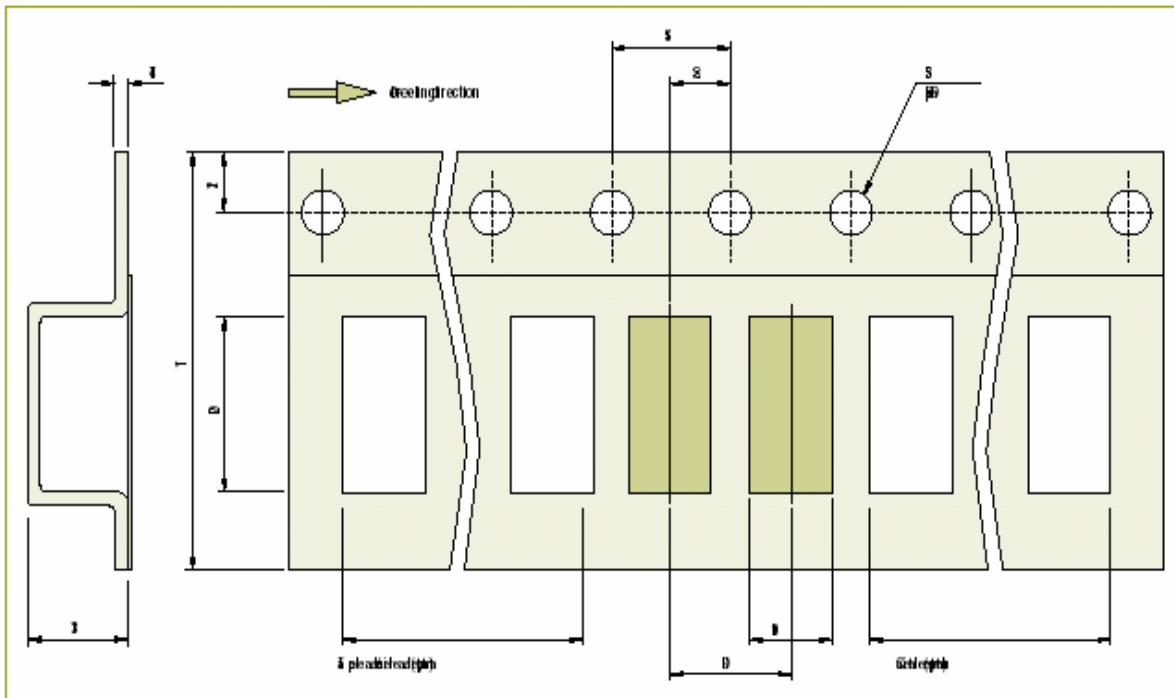
SOT-23 SMD Plastic Package



DIM	Min	Max
A	1.20	1.40
B	2.10	2.64
C	1.85	1.95
D	2.80	3.04
E	0.54	0.67
F	0.30	0.50
G	3°	
H	—	1.30
J	2.10	2.64

DIM	Min	Max
K	7°	
L	0.08	0.20
M	0.58	0.62
N	0.70	1.02
O	0.21	—
P	0.02	0.15
R	—	0.08
S	2°	8°
T	2°	10°

Packaging Tape Specifications for SMD Packages



SMD Tape Specifications (8-12 mm)

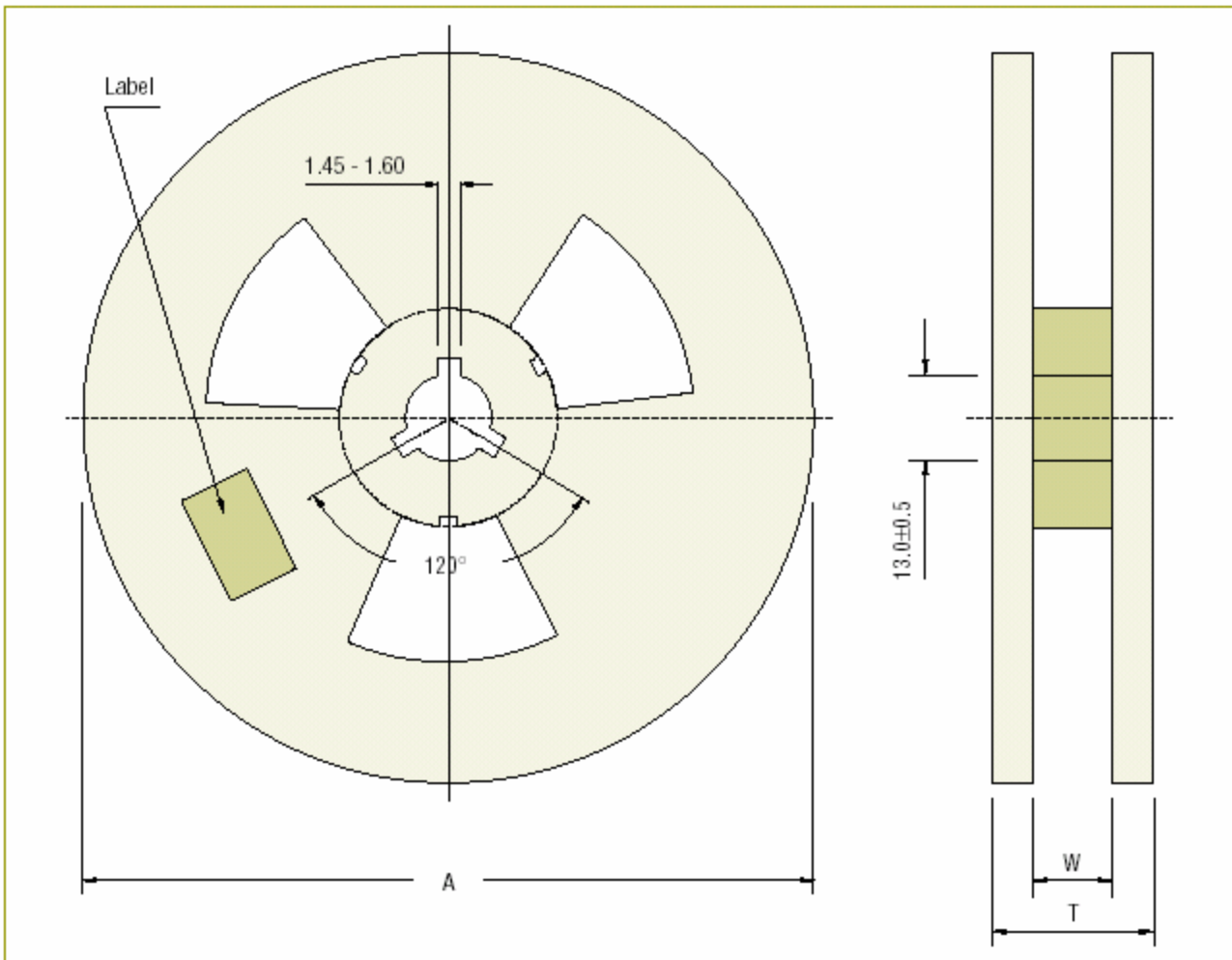
Device	D1	D2	D3	T1	T2	T3	T4	S1	S2	S3
						Max	Max			Dia
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
SOT-23	3.2±0.1	2.8±0.1	4.0±0.1	8.0±0.2	1.75±0.1	1.60	0.35	4.0±0.1	2.0±0.1	1.5±0.1

Packaging Specifications ...

T & A: Tape and Ammo Pack; T & R: Tape and Reel; Bulk: Loose in Poly Bags; Tube: Tube and Carton; K: 1,000

Package / Case Type	Packaging Type	Std. Packing Qty	Inner Carton			Outer Carton		
			Qty	Size L x W x H (cm)	Gross Weight (Kg)	Qty	Size L x W x H (cm)	Gross Weight (Kg)
SOT-23	T & R	3,000	15K	19 x 19 x 8	0.6	51K	23 x 23 x 23	2.2
	T & R	3,000	15K	19 x 19 x 8	0.6	408K	48 x 48 x 51	20.2
	T & R	10,000	50K	35.5 x 35.5 x 8.9	2.4	350K	48 x 48 x 51	19.2

Reel Specifications for SMD Packages



Reel Specifications

Package	Tape	Reel Dia.	Devices	Inside	Reel
	Width		per Reel	Thickness	Thickness
		A - Max	and MOQ	W	T - Max
SOT-23	8	180	3,000	8.4±2	14.4
	8	330	10,000	8.4±2	14.4

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. 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 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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Continental Device India Limited

C-120 Naraina Industrial Area, New Delhi 110 028, India.

Telephone + 91-11-2579 6150, 4141 1112 Fax + 91-11-2579 5290, 4141 1119

email@cdil.com www.cdilsemi.com

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