SOT-23 Formed SMD Package

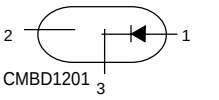
CMBD1201, 1202, 1203
CMBD1204, 1205

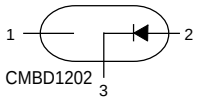
SILICON PLANAR EPITAXIAL HIGH SPEED DIODES

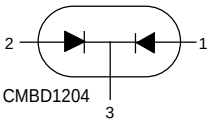
CMBD1201, 1202, are all single diodes
CMBD1203 is a dual diode, in series
CMBD1204 is a dual diode, common cathode
CMBD1205 is a dual diode, common anode

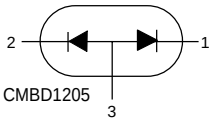
Marking

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

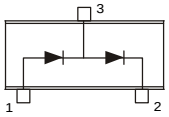




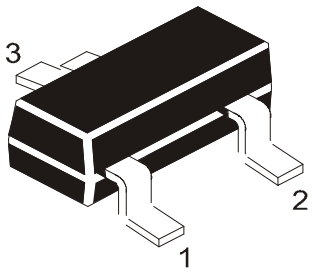




CMBD1203



Pin Configuration
1 = ANODE
2 = CATHODE
3 = ANODE/ CATHODE



ABSOLUTE MAXIMUM RATINGS *(per diode)*

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*
Junction temperature	T_j	*max.*	*150 ° C*
Forward voltage at I_F = 10 mA	V_F	<	*0.855 V*

Reverse recovery time when switched from			
I_F = 10 mA to I_R = 10 mA; R_L = 100 Ω;			
measured at I_R = 1 mA	t_{rr}	<	*4 ns*

RATINGS *(per diode) (at T_A = 25°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 µs	I_{FSM}	*max.*	*4 A*
t = 1 ms	I_{FSM}	*max.*	*1.0 A*
t = 1 s	I_{FSM}	*max.*	*0.5 A*
Storage temperature	*Tstg*	*–55 to*	*+150 °C*
Junction temperature	*Tj*	*max.*	*150 °C*

THERMAL RESISTANCE

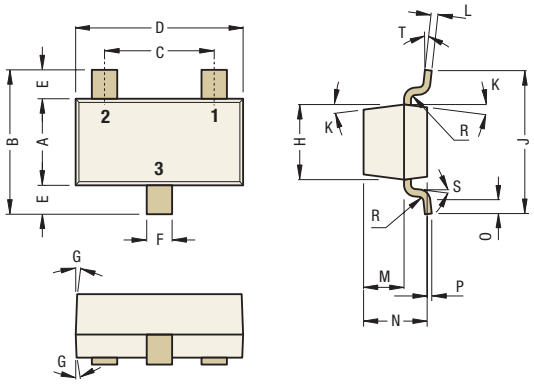
From junction to ambient	$R_{th\ j-a}$	=	*500 K/W*

CHARACTERISTICS *(per diode)*

T_j = 25 °C unless otherwise specified

Forward voltage			
I_F = 10 mA	V_F	<	*0.855 V*
I_F = 200 mA	V_F	<	**1.10** *V*
Reverse currents			
V_R = 20 V	I_R	<	*25 nA*
V_R = 75 V	I_R	<	*5 µA*
V_R = 25 V; T_j = 150 °C	I_R	<	*30 µA*
Forward recovery voltage			
I_F = 10 mA; t_p = 20 ns	V_{fr}	<	*1.75 V*
Recovery charge			
I_F = 10 mA to V_R = 5V; R = 100 Ω	Q_s	<	*45 pC*
Diode capacitance			
V_R = 0; f = 1 MHz	C_d	<	*2 pF*
Reverse recovery time when switched from			
I_F = 10 mA to I_R = 10 mA; R_L = 100 Ω;			
measured at I_R = 1 mA	t_{rr}	<	*4 ns*

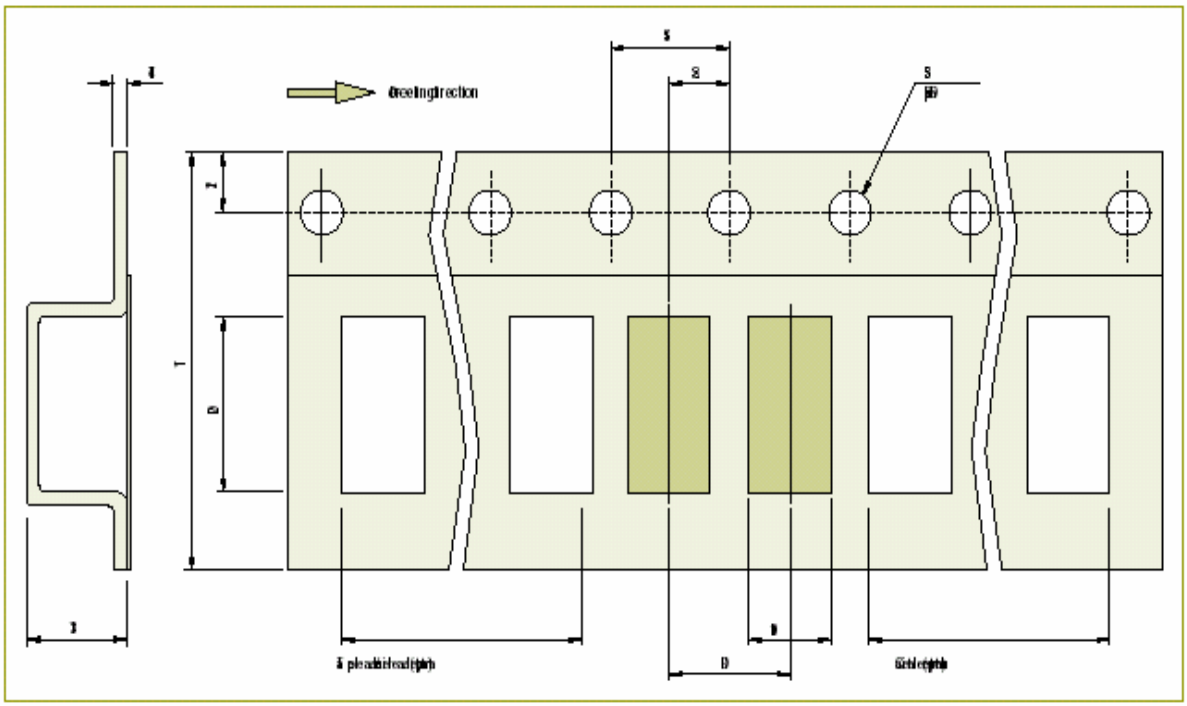
SOT-23
SMD Plastic Package



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)

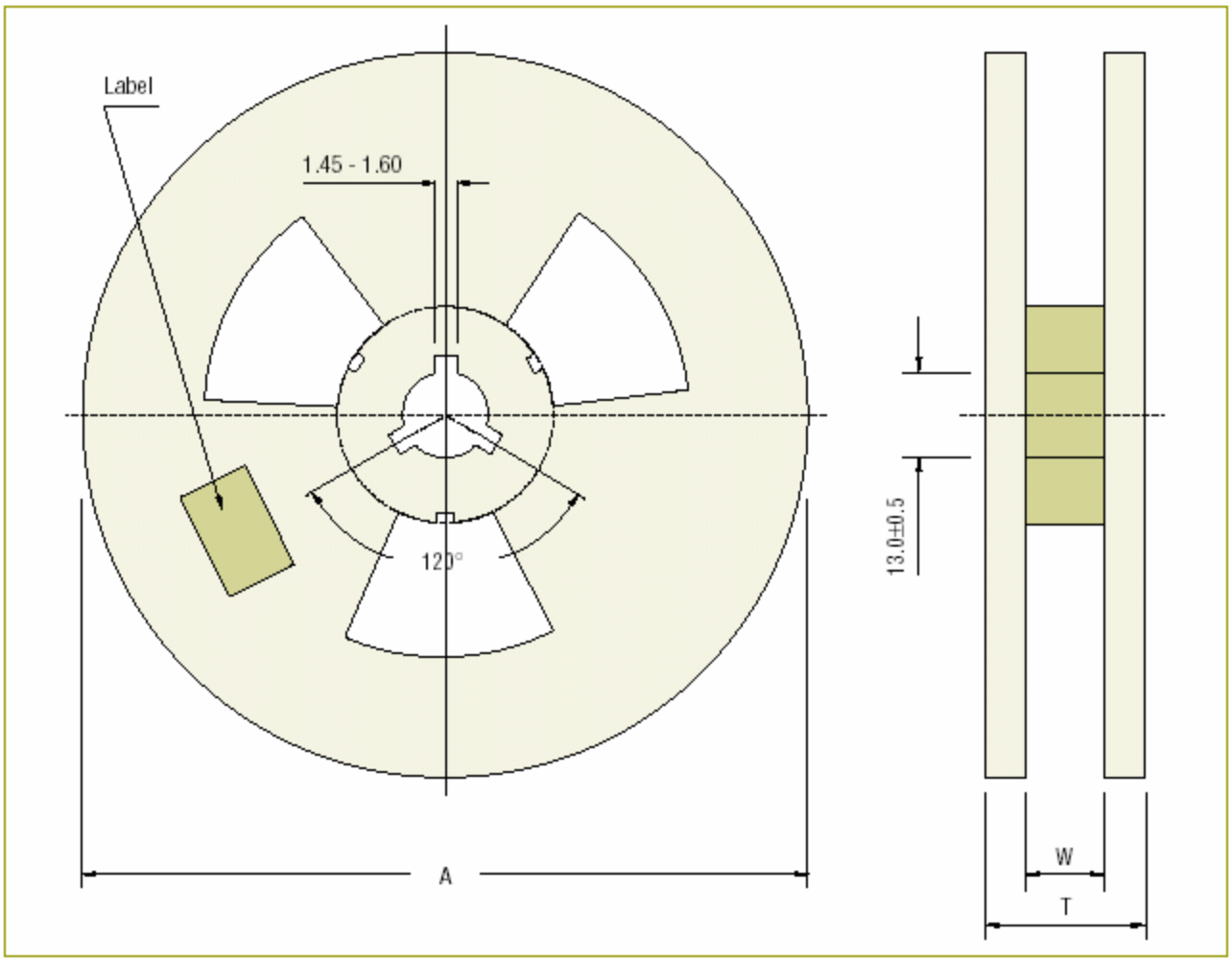
Device	D1	D2	D3	T1	T2	T3	T4	S1	S2	S3
						Max	Max			Dia
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
SOT-23	3.2±0.1	2.8±0.1	4.0±0.1	8.0±0.2	1.75±0.1	1.60	0.35	4.0±0.1	2.0±0.1	1.5±0.1

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	Inner Carton			Outer Carton		
		Qty	Qty	Size L x W x H	Gross Weight	Qty	Size L x W x H	Gross Weight
				(cm)	(Kg)		(cm)	(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 Width	Reel Dia. A - Max	Devices per Reel and MOQ	Inside Thickness W	Reel Thickness 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
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