

**SOT-23 Formed SMD Package**

**CMBD1201, CMBD1202, CMBD1203  
CMBD1204, CMBD1205, CMBD4148**

*SILICON PLANAR EPITAXIAL HIGH SPEED DIODES*

*CMBD1201, 1202, CMBD4148 are all single diodes*

*CMBD1203 is a dual diode, in series*

*CMBD1204 is a dual diode, common cathode*

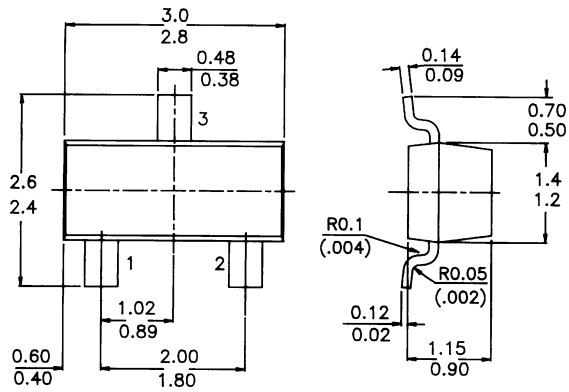
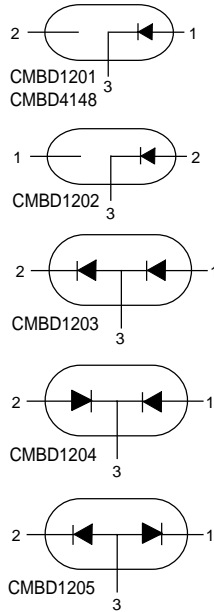
*CMBD1205 is a dual diode, common anode*

**Marking**

CMBD1201 – 24	CMBD1204 – 27
CMBD1202 – 25	CMBD1205 – 28
CMBD1203 – 26	CMBD4148 – 5H

**PACKAGE OUTLINE DETAILS**

*ALL DIMENSIONS IN mm*



**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 <math>I_F = 10</math> mA</i>	$V_F$	<	0.855 V

**CMBD1201, CMBD1202, CMBD1203  
CMBD1204, CMBD1205, CMBD4148**

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

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

**CHARACTERISTICS** (per diode)

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

Forward voltage

$I_F = 10 \text{ mA}$	$V_F$	<	0.855 V
$I_F = 200 \text{ mA}$	$V_F$	<	1.05 V
$I_F = 10 \text{ mA}$ CMBD4148	$V_F$	<	1.0 V

Reverse currents

$V_R = 20 \text{ V}$	$I_R$	<	25 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  $I_R = 1 \text{ mA}$

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

## Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete 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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