

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

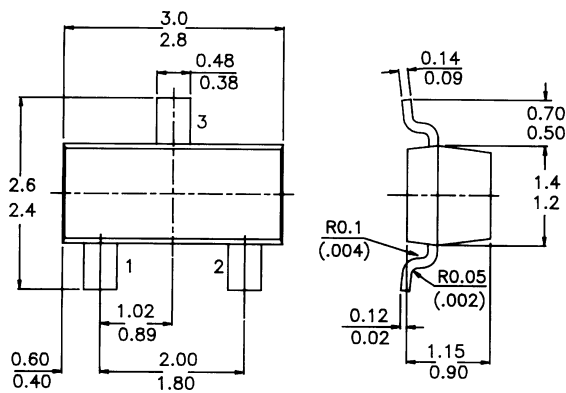
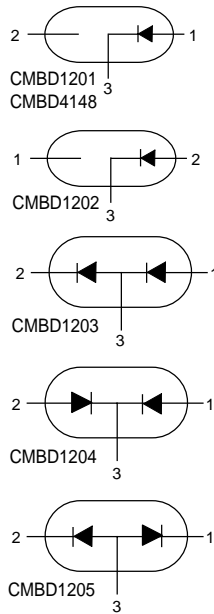
CMBD1205 is a dual diode, common anode

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

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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 μA
$V_R = 25 \text{ V}$; $T_j = 150^\circ\text{C}$	I_R	<	30 μA

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

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