

SMD Schottky Barrier Diode



SMD Diodes Specialist

CDBF0540 (Lead-free Device)

$I_o = 500 \text{ mA}$
 $V_R = 40 \text{ Volts}$

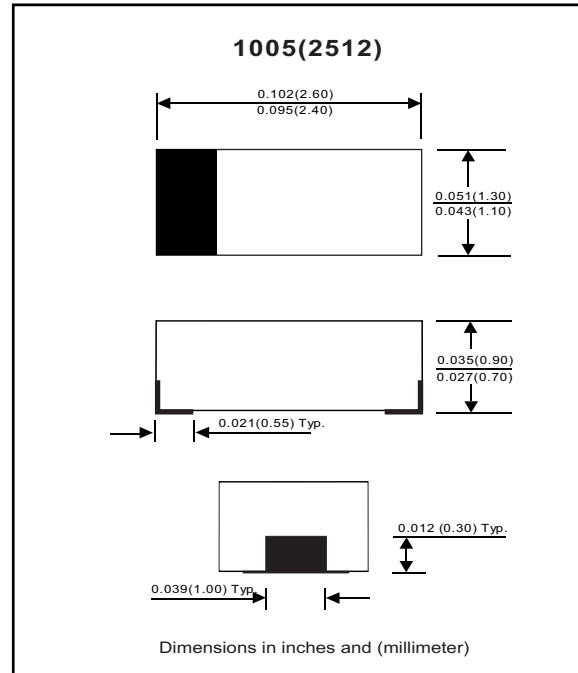
Features

- Low forward Voltage
- Designed for mounting on small surface.
- Extremely thin/leadless package.
- Majority carrier conduction.



Mechanical data

- Case: SOD-323F (2512) Standard package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Mounting position: Any.
- Weight: 0.006 gram (approximately).



Maximum Rating (at $T_A = 25^\circ \text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Repetitive peak reverse voltage		V_{RRM}			40	V
Reverse voltage		V_R			40	V
Average forward rectified current		I_o			500	mA
Forward current, surge peak	8.3 ms single half sine-wave superimposed on rate load (JEDEC method)	I_{FSM}			5.5	A
Storage temperature		T_{STG}	-40		+125	$^\circ\text{C}$
Junction temperature		T_j	-40		+125	$^\circ\text{C}$

Electrical Characteristics (at $T_A = 25^\circ \text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F = 0.5 \text{ A}$ @ $T_a = 25^\circ \text{C}$	V_F			0.51	V
	$I_F = 1 \text{ A}$ @ $T_a = 25^\circ \text{C}$	V_F			0.64	V
	$I_F = 0.5 \text{ A}$ @ $T_a = 100^\circ \text{C}$	V_F			0.46	V
	$I_F = 1 \text{ A}$ @ $T_a = 100^\circ \text{C}$	V_F			0.62	V
Reverse current	$V_R = 20 \text{ V}$ @ $T_a = 25^\circ \text{C}$	I_R			10	μA
	$V_R = 40 \text{ V}$ @ $T_a = 25^\circ \text{C}$	I_R			20	μA
	$V_R = 20 \text{ V}$ @ $T_a = 100^\circ \text{C}$	I_R			2	mA
	$V_R = 40 \text{ V}$ @ $T_a = 100^\circ \text{C}$	I_R			5	mA
Capacitance between terminals	$f = 1 \text{ MHz}$, and 0 VDC reverse voltage	C_T			170	pF
Reverse recovery time	$I_F = I_R = 10 \text{ mA}$, $I_{rr} = 0.1 \times I_R$, $R_L = 100 \text{ ohm}$	T_{rr}		22		ns

RATING AND CHARACTERISTIC CURVES (CDBF0540)

Fig. 1 - Forward characteristics

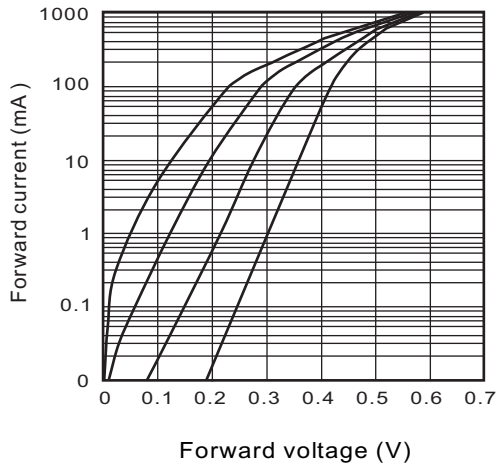


Fig. 2 - Reverse characteristics

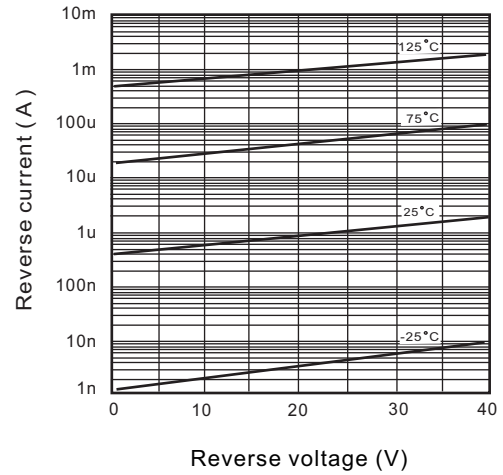


Fig. 3 - Capacitance between terminals characteristics

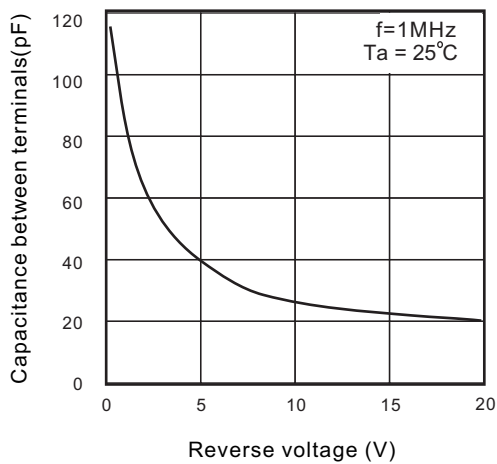


Fig. 4 - Current derating curve

