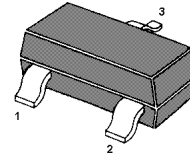


## MMBD3004/SE /CC/CA Silicon Epitaxial Planar Switching Diode

### High Voltage Switching Diode

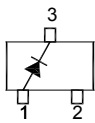
#### Features

- Fast switching speed
- High Conductance
- High Reverse Breakdown Voltage Rating

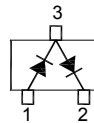


SOT-23 Plastic Package

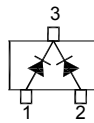
MMBD3004



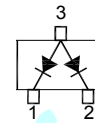
MMBD3004SE



MMBD3004CC



MMBD3004CA



Marking Code: "HC"

Marking Code: "PY"

Marking Code: "PZ"

Marking Code: "RA"

#### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	350	V
Working Peak Reverse Voltage	$V_{RWM}$	300	V
DC Blocking Voltage	$V_R$	300	V
Continuous Forward Current	$I_F$	225	mA
Peak Repetitive Forward Current	$I_{FRM}$	625	mA
Non-Repetitive Peak Forward Surge Current	$I_{FSM}$	1 4	A
		at $t = 1\text{ s}$ at $t = 1\text{ }\mu\text{s}$	
Power Dissipation	$P_d$	350	mW
Operating and Storage Temperature Range	$T_j, T_{stg}$	- 65 to + 150	$^\circ\text{C}$

#### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
Forward Voltage	$V_F$	-	0.87	V
at $I_F = 20\text{ mA}$		-	1	
at $I_F = 100\text{ mA}$		-	1.25	
Reverse Current	$I_R$	-	100	nA
at $V_R = 240\text{ V}$ at $V_R = 240\text{ V}, T_j = 150\text{ }^\circ\text{C}$		-	100	$\mu\text{A}$
Reverse Breakdown Voltage	$V_{(BR)R}$	300	-	V
at $I_R = 100\text{ }\mu\text{A}$				
Total Capacitance	$C_T$	-	5	pF
at $V_R = 0, f = 1\text{ MHz}$				
Reverse Recovery Time	$t_{rr}$	-	50	ns
at $I_F = I_R = 30\text{ mA}, I_{rr} = 0.1 I_R, R_L = 100\text{ }\Omega$				

## Typical Characteristics

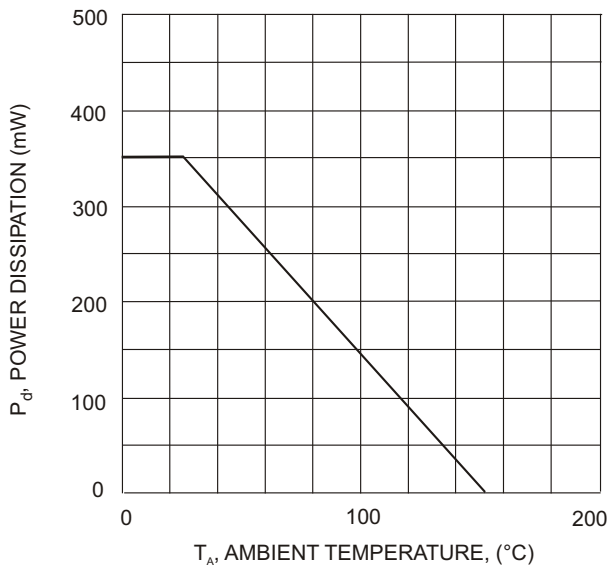


Fig. 1 Power Derating Curve, total package

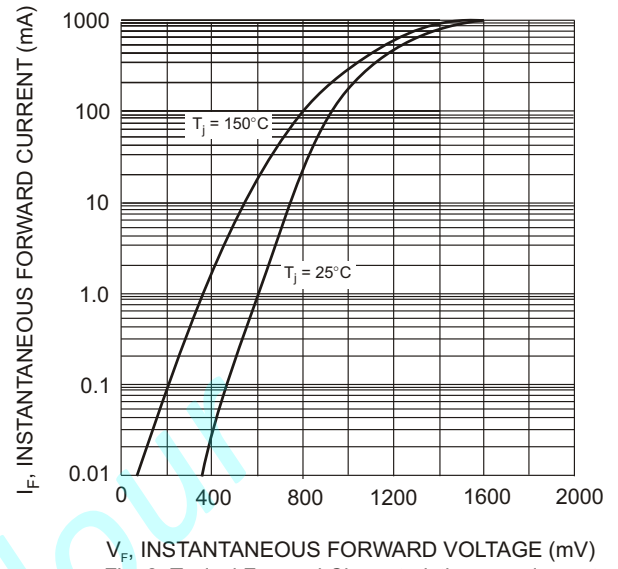


Fig. 2 Typical Forward Characteristics, per element

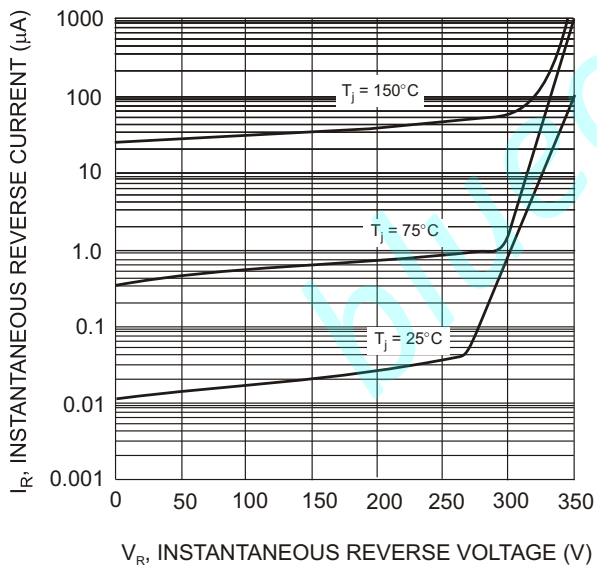


Fig. 3 Typical Reverse Characteristics, per element

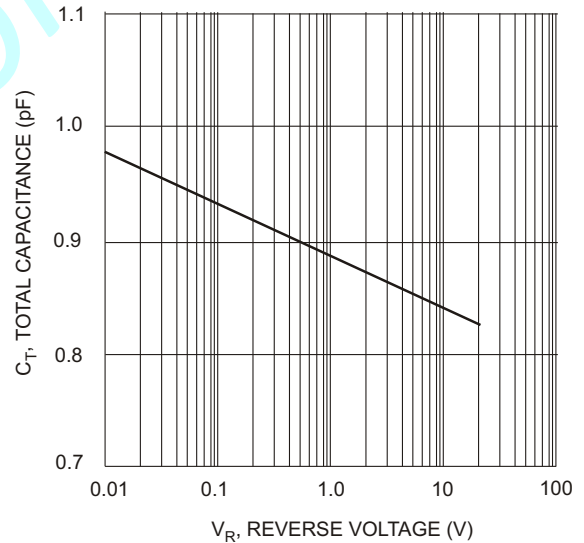
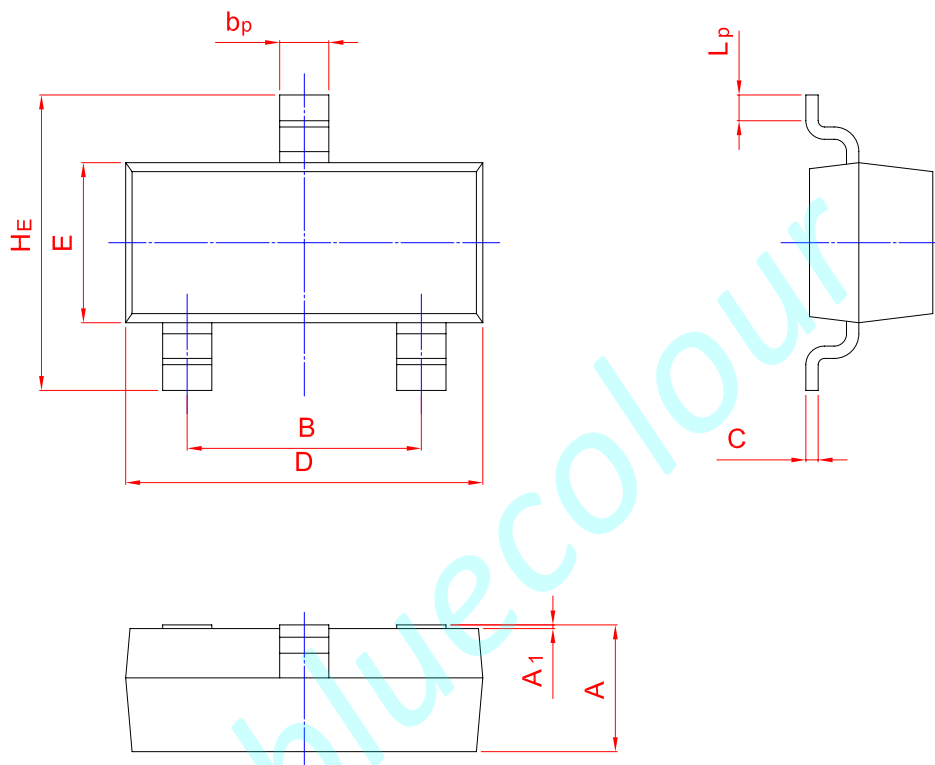
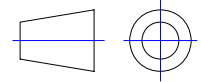


Fig. 4 Typical Total Capacitance vs. Reverse Voltage, per element

## PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20