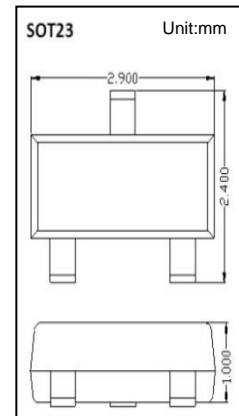


SOT-23 Plastic-Encapsulate Diodes

MMBD3004/CA/CC/SE

- ◇ Fast Switching Speed
- ◇ For General Purpose Switching Applications
- ◇ High Conductance
- ◇ Low Leakage Current
- ◇ Small Outline Surface Mount Package
- ◇ RoHS Compliant / Green EMC



Maximum Ratings (Ta = 25 °C)

Symbol	Parameter	Value	Units
V_{RRM}	Repetitive Peak Reverse Voltage	350	V
$V_{R(RMS)}$	RMS Reverse Voltage	210	V
V_R	Continuous Reverse Voltage	300	V
I_F	Continuous Forward Current	225	mA
I_{FSM}	Non-Repetitive Peak Forward Surge Current (@t=1.0us) (@t=1.0s)	4	A
		1	
I_{FRM}	Repetitive Peak Forward Current	625	mA
P_D	Power Dissipation	410	mW
T_J	Junction Temperature	-55 to 150	°C
T_{stg}	Storage Temperature	-55 to 150	°C
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	310	°C/W

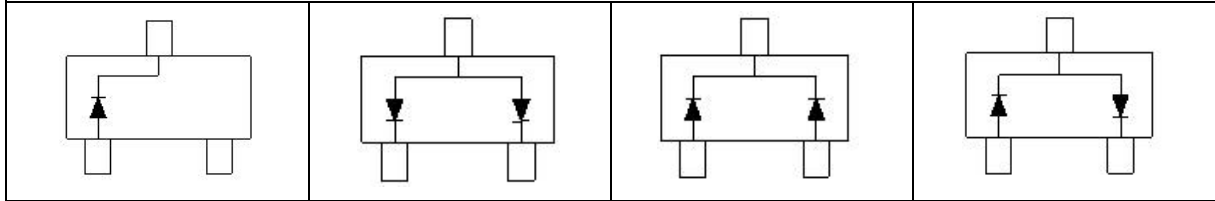
Electrical Characteristics (Ta = 25 °C)

Symbol	Parameter	Test Conditions	Min	Max	Units
V_F	Forward Voltage	$I_F=20mA$	-	0.87	V
		$I_F=100mA$	-	1.0	
		$I_F=200mA$	-	1.25	
V_{BR}	Reverse Breakdown Voltage	$I_R=150\mu A$	350	-	V
I_R	Reverse Voltage Leakage Current	$V_R=240V, T_J=25^\circ C$	-	100	nA
		$V_R=240V, T_J=150^\circ C$	-	100	μA
C_J	Junction Capacitance	$V_R=0V, f=1MHz$	-	5.0	pF
T_{rr}	Reverse Recovery Time	$I_F=30mA, I_R=30mA$ $I_{rr}=3mA, R_{L=100\Omega}$	-	50.0	nS

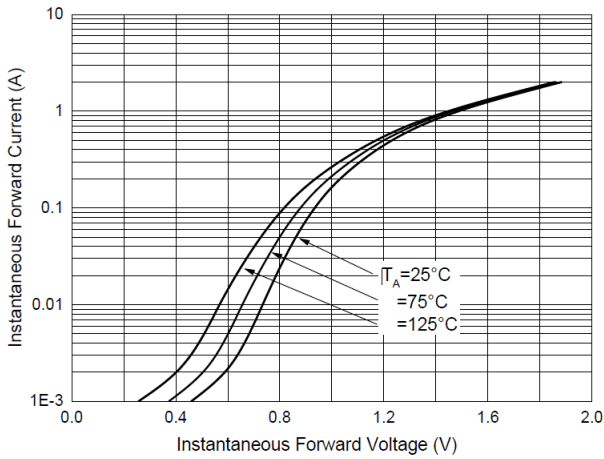
Device Marking Code

MMBD3004	MMBD3004CA	MMBD3004CC	MMBD3004SE
HC	RA	PZ	PY

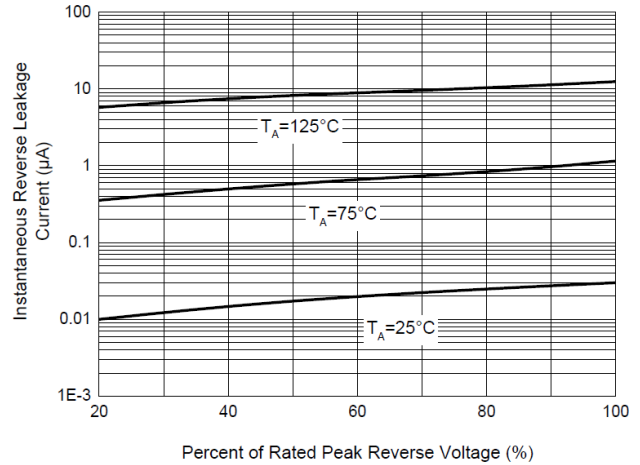
Internal Structure



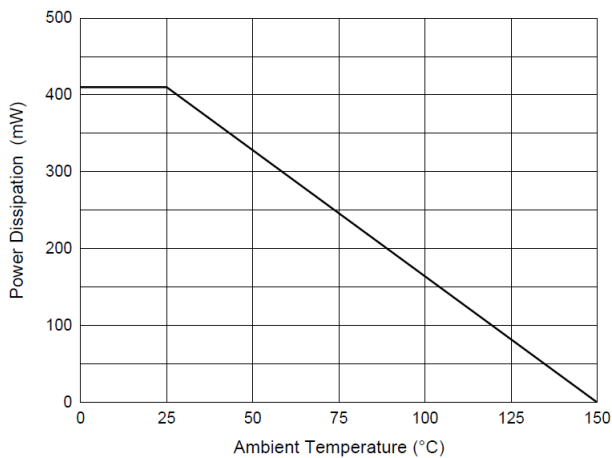
Typical Characteristics



Typical Instantaneous Forward Characteristics



Typical Reverse Leakage Characteristics



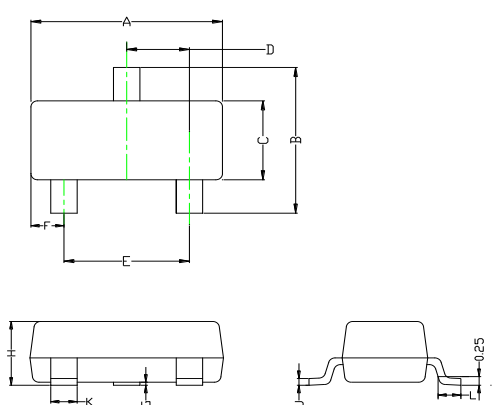
Power Derating Curve

Ordering Information

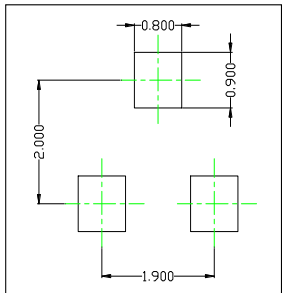
Device	Package	Shipping	Tape Wide	Emboss Pitch	Tape Specification	Notes
MMBD3004 /CA/CC/SE	SOT23	Tape & Reel 3000pcs /7" Reel	8mm	4mm	Conductive	

Package Dimensions

Package outline : SOT23



SOT23 Package Outline



Land Pattern Recommendation

Symbol	Dimensions in mm	
	Min.	Max.
A	2.800	3.040
B	2.100	2.640
C	1.200	1.400
D	0.890	1.030
E	1.780	2.050
F	0.450	0.600
G	0.013	0.100
H	0.900	1.110
J	0.085	0.180
K	0.370	0.510
L	0.300	0.500

Notice:

1. Lead plating: Pb free solder
2. Lead thickness includes solder plating
3. Lead frame: CAC-5
4. Other Tolerance: ± 0.05