



# CHENMKO ENTERPRISE CO.,LTD

CHBD2004N1SPT

## SURFACE MOUNT SWITCHING DIODE

VOLTAGE 300 Volts CURRENT 0.2 Ampere

Lead free devices

### APPLICATION

- \* Ultra high speed switching

### FEATURE

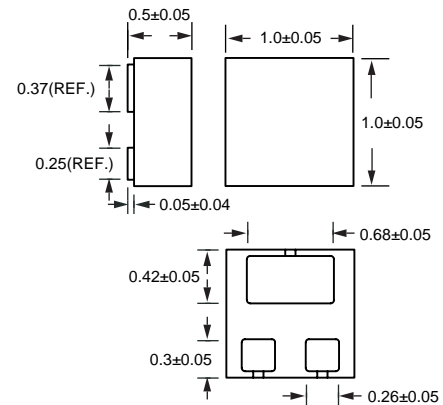
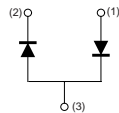
- \* Small surface mounting type. (FBPT-923)
- \* High speed. ( $T_{RR}=50$  nSec Typ.)
- \* Suitable for high packing density.
- \* Peak forward current is 625mA.
- \* High voltage capability.

### CONSTRUCTION

- \* Silicon epitaxial planar

FBPT-923

### CIRCUIT



Dimensions in millimeters

FBPT-923

### MAXIMUM RATINGS ( At $T_A = 25^\circ\text{C}$ unless otherwise noted )

RATINGS	SYMBOL	CHBD2004N1SPT	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	300	Volts
Maximum RMS Voltage	$V_{RMS}$	210	Volts
Maximum DC Blocking Voltage	$V_{DC}$	240	Volts
Maximum Average Forward Rectified Current	$I_o$	0.2	Amps
Peak Forward Surge Current at 1mSec.	@ $T_P = 1\text{mSec}$	4.0	Amps
	@ $T_P = 1\text{Sec}$	1.0	Amps
Typical Junction Capacitance between Terminal (Note 1)	$C_J$	5.0	pF
Maximum Reverse Recovery Time (Note 2)	$T_{RR}$	50	nSec
Typical Thermal Resistance	$R_{\theta JA}$	357	$^\circ\text{C}/\text{W}$
Operation and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS ( At $T_A = 25^\circ\text{C}$ unless otherwise noted )

CHARACTERISTICS	SYMBOL	CHBD2004N1SPT	UNITS
Reverse Breakdown Voltage at $I_R = 100\mu\text{A}$	$BV_R$	300 Min.	Volts
Maximum Instantaneous Forward Voltage at $I_F = 100\text{mA}$	$V_F$	1.0	Volts
Maximum Average Reverse Current at $V_R = 240\text{V}$	@ $T_A = 25^\circ\text{C}$	100	nAmps
	@ $T_A = 150^\circ\text{C}$	100	uAmps

- NOTES : 1. Measured at 1.0 MHz and applied reverse voltage of 0 volts.  
 2. Measured at applied forward current of 30mA ,reverse current of 30mA , $R_L=100 \Omega$  and recovery to  $I_{RR}=-3\text{mA}$ .  
 3. ESD sensitive product handling required.

2006-07

## RATING CHARACTERISTIC CURVES ( CHBD2004N1SPT )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURRENT

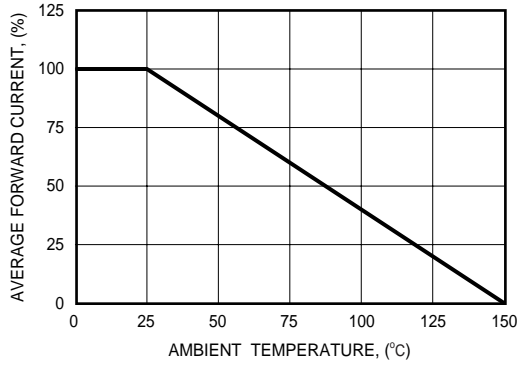


FIG. 2 - FORWARD CHARACTERISTICS

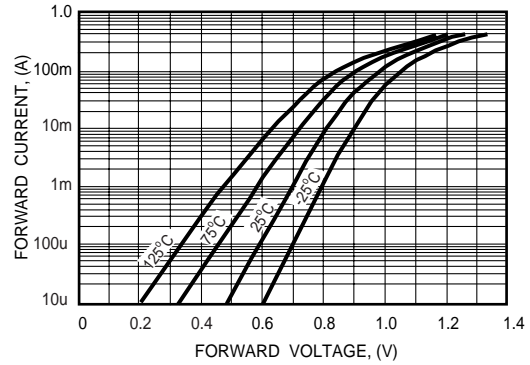


FIG. 3 - REVERSE CHARACTERISTICS

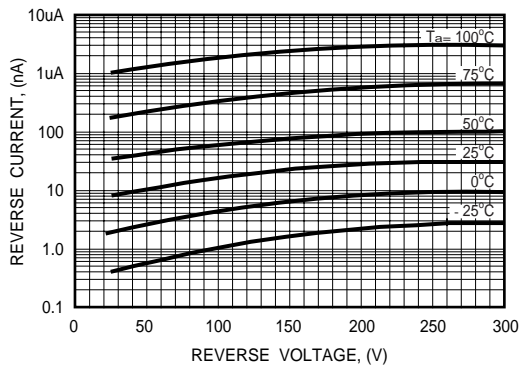


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

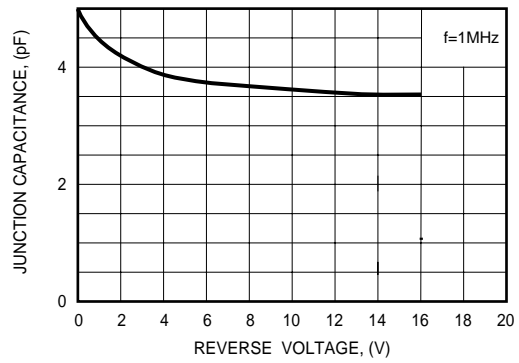


FIG. 5 - REVERSE RECOVERY TIME

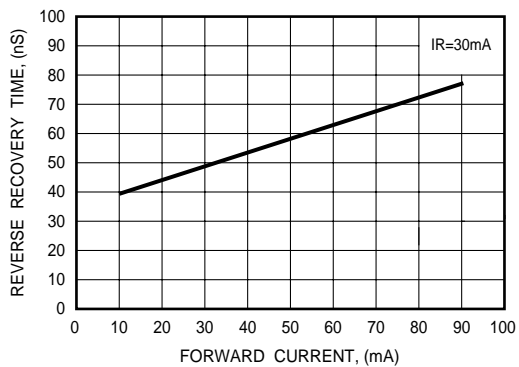


FIG. 6 - REVERSE RECOVERY TIME MEASUREMENT CIRCUIT

