



# CHENMKO ENTERPRISE CO.,LTD

**BD4148N1APT**

## SURFACE MOUNT SWITCHING DIODE

VOLTAGE 75 Volts CURRENT 0.15 Ampere

Lead free devices

### APPLICATION

\* Ultra high speed switching

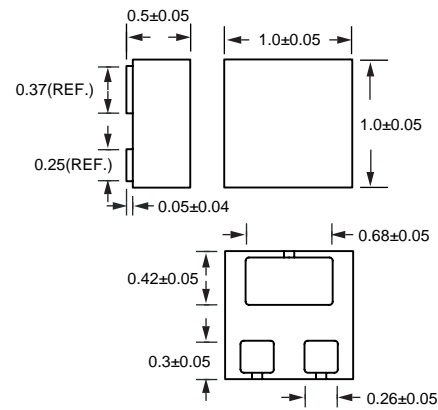
### FEATURE

- \* SmaBD surface mounting type. (FBPT-923)
- \* High speed. ( $T_{RR}=4.0nSec$  Typ.)
- \* Suitable for high packing density.
- \* Peak forward current is 500mA.

### CONSTRUCTION

\* Silicon epitaxial planar

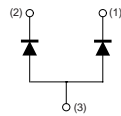
**FBPT-923**



Dimensions in millimeters

**FBPT-923**

### CIRCUIT



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

RATINGS		SYMBOL	BD4148N1APT	UNITS
Maximum Non-Repetitive Peak Reverse Voltage		$V_{RM}$	100	Volts
Maximum Repetitive Peak Reverse Voltage Maximum Working Peak Reverse Voltage Maximum DC Blocking Voltage		$V_{RRM}$ $V_{RWM}$ $V_{DC}$	75	Volts
Maximum RMS Voltage		$V_{RMS}$	53	Volts
Maximum Average Forward Rectified Current		$I_o$	0.15	Amps
Peak Forward Surge Current at 1uSec.	@1Sec	$I_{FSM}$	1.0	Amps
	@1.0uSec		2.0	
Typical Junction Capacitance between Terminal (Note 1)		$C_J$	4.0	pF
Maximum Reverse Recovery Time (Note 2)		$t_{rr}$	4.0	nSec
Maximum Thermal Resistance		$R_{\theta JA}$	350	$^\circ C/W$
Maximum Operating and Storage Temperature Range		$T_{J,TSTG}$	-65 to +150	$^\circ C$

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

CHARACTERISTICS		SYMBOL	BD4148N1APT	UNITS
Maximum Instantaneous Forward Voltage at $I_f = 10$ mA		$V_F$	1.0	Volts
Maximum Average Reverse Current	$V_R = 20V$ @ $T_J = 25^\circ C$	$I_R$	5.0	uAmps
	$V_R = 75V$ @ $T_J = 25^\circ C$		25	
	$V_R = 20V$ @ $T_J = 150^\circ C$		30	
	$V_R = 70V$ @ $T_J = 150^\circ C$		50	

NOTES : 1. Measured at 1.0 MHz and applied reverse voltage of 0 volts.

2. Measured at applied forward current of 10 mA, reverse current of 1.0 mA, Reverse voltage of 6.0 volts and  $R_L = 100$  ohms.

3. ESD sensitive product handling required.

2006-07

## RATING CHARACTERISTIC CURVES ( BD4148N1APT )

FIG. 1 - FORWARD CHARACTERISTICS

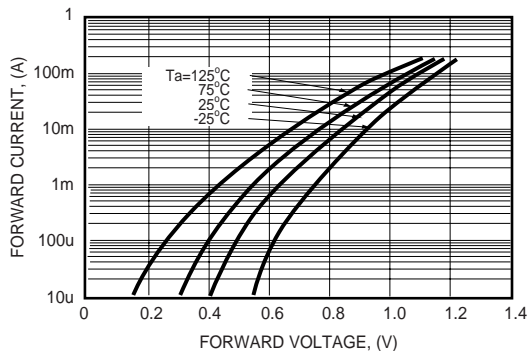


FIG. 2 - REVERSE CHARACTERISTICS

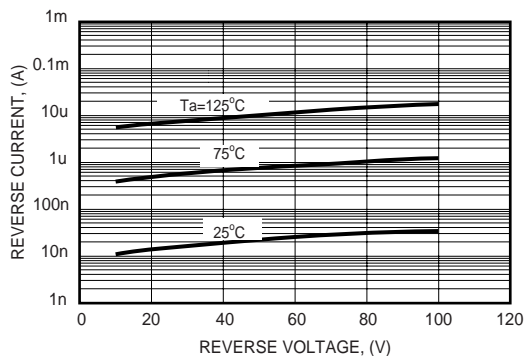


FIG. 3 - TYPICAL JUNCTION CAPACITANCE

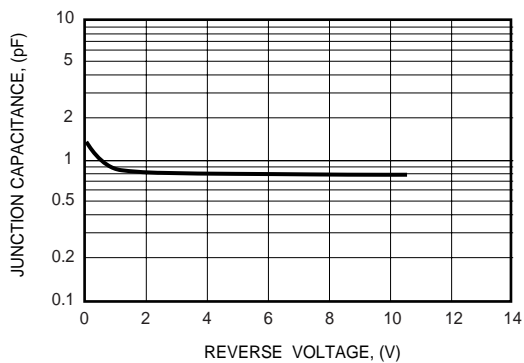


FIG. 4 - REVERSE RECOVERY TIME CHARACTERISTICS

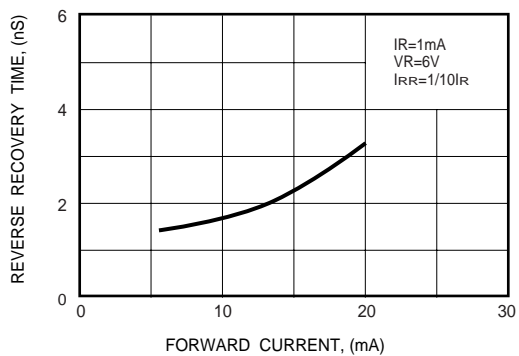


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

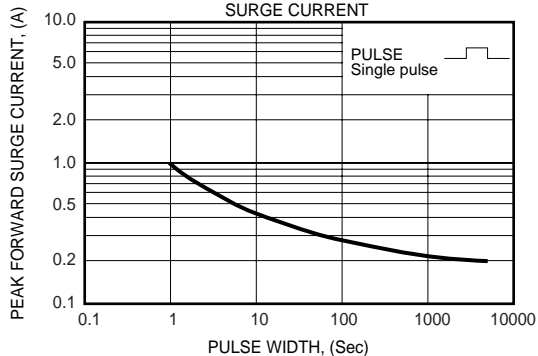


FIG. 6 - REVERSE RECOVERY TIME MEASUREMENT CIRCUIT

