



# CHENMKO ENTERPRISE CO.,LTD

## SURFACE MOUNT SWITCHING DIODE

VOLTAGE 75 Volts CURRENT 0.15 Ampere

**BD4148CPT**

*Lead free devices*

### APPLICATION

\* Ultra high speed switching

### FEATURE

- \* SmaBD surface mounting type. (SOT-23)
- \* High speed. ( $T_{RR}=4.0\text{ns}$  Typ.)
- \* Suitable for high packing density.
- \* Maximum total power dissipation is 300mW.

### CONSTRUCTION

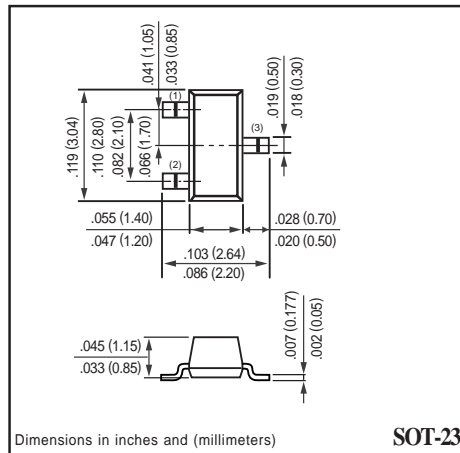
\* Silicon epitaxial planar

### MARKING

\* 5J-

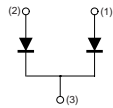


SOT-23



SOT-23

### CIRCUIT



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

RATINGS	SYMBOL	BD4148CPT	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	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	$^\circ\text{C/W}$
Maximum Operating and Storage Temperature Range	$T_{J,STG}$	-65 to +150	$^\circ\text{C}$

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

CHARACTERISTICS	SYMBOL	BD4148CPT	UNITS
Maximum Instantaneous Forward Voltage at $I_F = 10\text{ mA}$	$V_F$	1.0	Volts
Maximum Average Reverse Current	$V_R = 20\text{V}$ @ $T_J = 25^\circ\text{C}$	25	nAmps
	$V_R = 75\text{V}$ @ $T_J = 25^\circ\text{C}$	50	uAmps

- 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  $R_L = 100\text{ ohms}$ .  
 3. ESD sensitive product handling required.

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## RATING CHARACTERISTIC CURVES ( BD4148CPT )

FIG. 1 - FORWARD CHARACTERISTICS

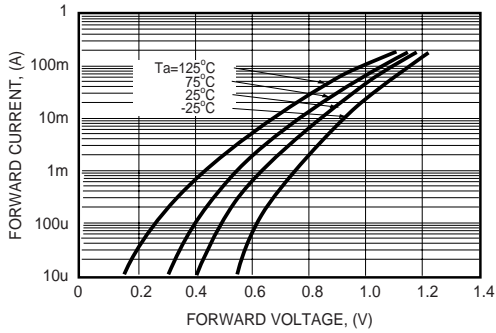


FIG. 2 - REVERSE CHARACTERISTICS

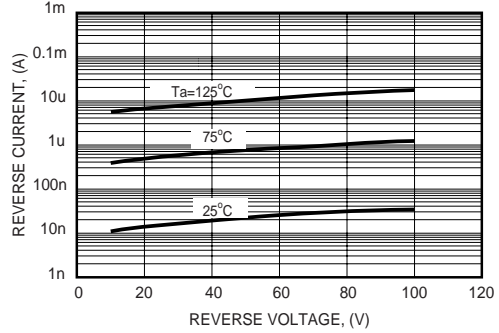


FIG. 3 - TYPICAL JUNCTION CAPACITANCE

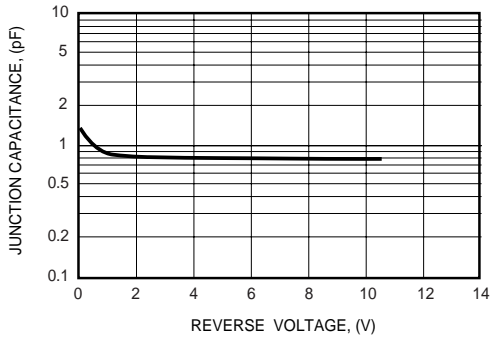


FIG. 4 - REVERSE RECOVERY TIME CHARACTERISTICS

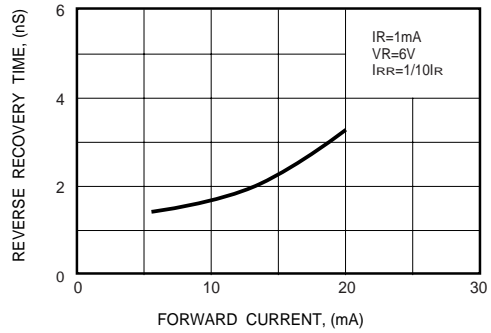


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

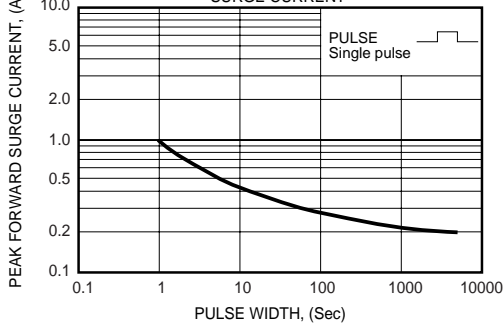


FIG. 6 - REVERSE RECOVERY TIME MEASUREMENT CIRCUIT

