



CHENMKO ENTERPRISE CO.,LTD

Lead free devices

SURFACE MOUNT  
SWITCHING DIODE

VOLTAGE 75 Volts CURRENT 0.15 Ampere

BD4148APT

APPLICATION

- \* Ultra high speed switching

FEATURE

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

CONSTRUCTION

- \* Silicon epitaxial planar

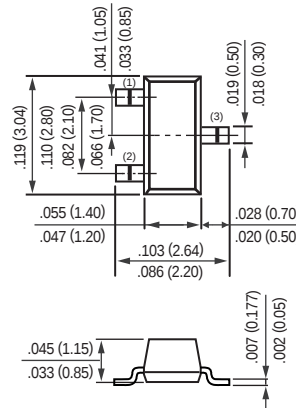
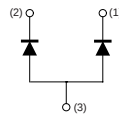
MARKING

- \* 5I-



SOT-23

CIRCUIT



Dimensions in inches and (millimeters)

SOT-23

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

| RATINGS                                                                                                        |          | SYMBOL                             | BD4148APT   | UNITS              |
|----------------------------------------------------------------------------------------------------------------|----------|------------------------------------|-------------|--------------------|
| Maximum Non-Repetitive Peak Reverse Voltage                                                                    |          | $V_{RM}$                           | 100         | Volts              |
| Maximum Repetitive Peak Reverse Voltage<br>Maximum Working Peak Reverse Voltage<br>Maximum DC Blocking Voltage |          | $V_{RRM}$<br>$V_{RWM}$<br>$V_{DC}$ | 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         | $^\circ\text{C/W}$ |
| Maximum Operating 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 | BD4148APT | UNITS |
|---------------------------------------------------------------|-----------------------------------------------|--------|-----------|-------|
| Maximum Instantaneous Forward Voltage at $I_F = 10\text{ mA}$ |                                               | $V_F$  | 1.0       | Volts |
| Maximum Average Reverse Current                               | $V_R = 20\text{V}$ @ $T_J = 25^\circ\text{C}$ | $I_R$  | 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 ( BD4148APT )

FIG. 1 - FORWARD CHARACTERISTICS

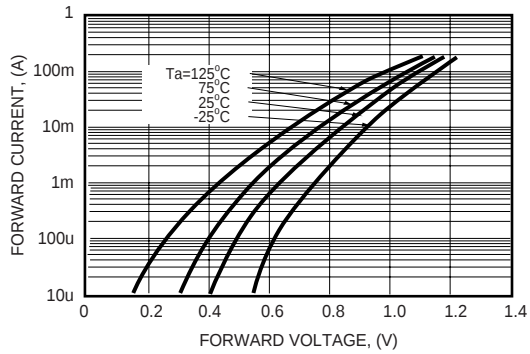


FIG. 2 - REVERSE CHARACTERISTICS

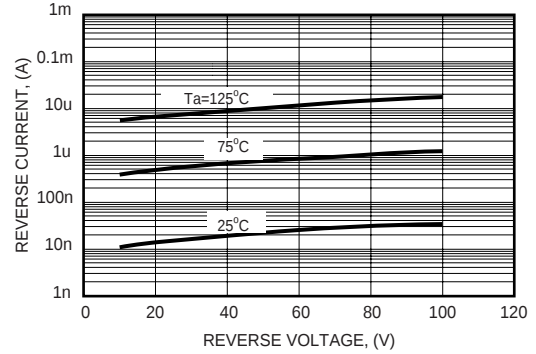


FIG. 3 - TYPICAL JUNCTION CAPACITANCE

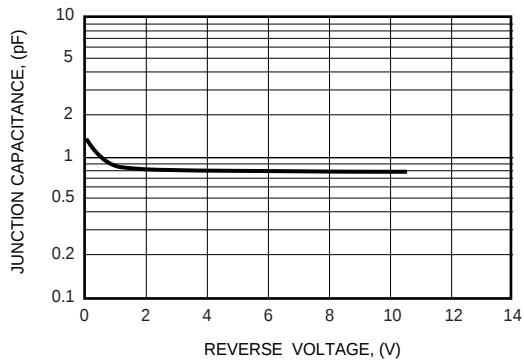


FIG. 4 - REVERSE RECOVERY TIME CHARACTERISTICS

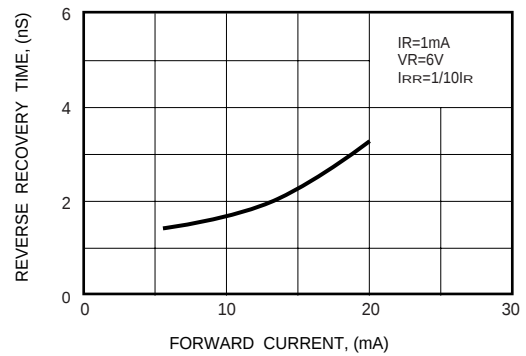


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

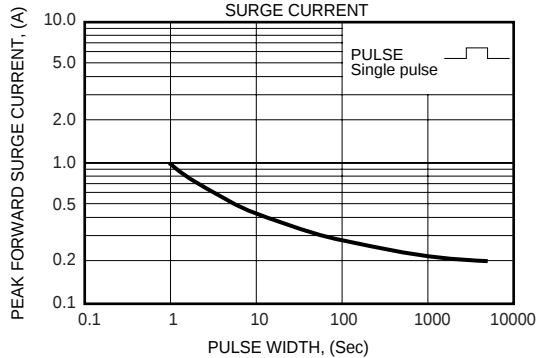


FIG. 6 - REVERSE RECOVERY TIME MEASUREMENT CIRCUIT

