



**CHENMKO ENTERPRISE CO.,LTD**

**SURFACE MOUNT ZENER**

**SILICON PLANAR POWER ZENER DIODES**  
VOLTAGE RANGE 3.6V TO 33V

**CHPZ3V6PT**

**THRU**

**CHPZ33VPT**

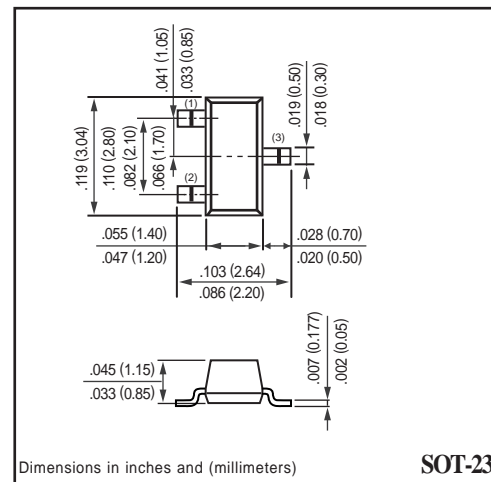
Lead free devices

**FEATURE**

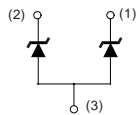
- \* High temperature soldering type.
- \* ESD rating of class 3(>16 kV) per human body model.
- \* Silicon planar zener diodes.
- \* Silicon-oxide passivated junction.
- \* Low temperature coefficient voltage
- \* 350 mW Rating on FR-4 or FR-5 Board
- \* Dual Zener diode structure and connectd in a common anode configuration.

**MECHANICAL**

- \* Void-free, Transfer-molded, Thermosetting plastic case
- \* SOT-23 Packaging.
- \* Cathode indicated by polarity band.
- \* Mounting position: Any.



**CIRCUIT**



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

RATINGS	SYMBOL	VALUE	UNITS
Zener Current ( see Table "Characteristics" )	-	-	-
Max. Steady State Power Dissipation @ $T_A=25^{\circ}\text{C}$	$P_D$	350	mW
Max. Operating Temperature Range	$T_J$	-65 to +150	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +150	$^{\circ}\text{C}$

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

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNITS
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	-	-	357	$^{\circ}\text{C/W}$
Max. Instantaneous Forward Voltage at $I_F=10\text{mA}$	$V_F$	-	-	0.9	Volts

- NOTES :
1. The JEDEC type numbers listd have a standaerd tolerance on the normal zener voltage of  $\pm 5\%$ , Suffix S= $\pm 2\%$ .
  2. The zener impedance is derived from 1KHz AC voltage, which results when an AC current having an RMS value equal to 10% of DC zener current ( $I_{ZT}$  or  $I_{ZK}$ ) is superimposed on  $I_{ZT}$  or  $I_{ZK}$ . Zener impedance is measured at two points to insure a sharp knee on the breakdown curve to eliminate unstable units.
  3. Valid provided that electrodes at distance of 10mm from case are kept ambient temperature.
  4. Measured under thermal equilibrium and DC test conditions.
  5. The rating listd in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of 1/2 square wave or equivalent sine wave pulse of 1/120 second duration superimposed on the test current,  $I_{ZT}$ , per JEDEC registration.

## ELECTRICAL CHARACTERISTICS ( CHPZ3V6PT THRU CHPZ33VPT )

TYPE	Zener voltage V <sub>Z</sub> (V) @ I <sub>ZT</sub>			Test current	Maximum Zener impedance			Maximum reverse leakage current		Type temperature coefficient at T <sub>A</sub> = 25°C θ <sub>VZ</sub> (%/°C)	Maximum regulator current at T <sub>A</sub> = 50°C I <sub>ZM</sub> (mA)
	Min	Nom	Max		Z <sub>ZT</sub> at I <sub>ZT</sub> (Ω)	Z <sub>ZK</sub> (Ω)	at I <sub>ZK</sub> (mA)	I <sub>R</sub> (μA)	at V <sub>R</sub> (V)		
	Volts	Volts	Volts	I <sub>ZT</sub> (mA)							
CHPZ3V6PT	3.4	3.6	3.8	5.0	95	600	1.0	2.0	1.0	-0.06	45
CHPZ3V9PT	3.7	3.9	4.1	5.0	90	600	1.0	2.0	1.0	-0.06	43
CHPZ4V3PT	4.0	4.3	4.6	5.0	90	600	1.0	1.0	1.0	-0.05	40
CHPZ4V7PT	4.4	4.7	5.0	5.0	80	500	1.0	3.0	2.0	+0.03	38
CHPZ5V1PT	4.8	5.1	5.4	5.0	60	400	1.0	2.0	2.0	+0.02	35
CHPZ5V6PT	5.2	5.6	6.0	5.0	40	400	1.0	1.0	2.0	+0.03	32
CHPZ6V0PT	5.6	6.0	6.4	5.0	20	150	1.0	3.0	3.5	+0.04	30
CHPZ6V2PT	5.8	6.2	6.6	5.0	10	150	1.0	3.0	4.0	+0.04	28
CHPZ6V8PT	6.4	6.8	7.2	5.0	15	80	1.0	2.0	4.0	+0.05	25
CHPZ7V5PT	7.1	7.5	7.9	5.0	15	80	1.0	1.0	5.0	+0.05	23
CHPZ8V2PT	7.7	8.2	8.7	5.0	15	80	1.0	0.7	5.0	+0.06	21
CHPZ8V7PT	8.2	8.7	9.2	5.0	15	100	1.0	0.5	6.0	+0.06	19
CHPZ9V1PT	8.6	9.1	9.6	5.0	15	100	1.0	0.2	6.0	+0.06	18
CHPZ10VPT	9.4	10	10.6	5.0	20	150	1.0	0.1	7.0	+0.07	16
CHPZ11VPT	10.4	11	11.6	5.0	20	150	1.0	0.1	8.0	+0.07	15
CHPZ12VPT	11.4	12	12.7	5.0	25	150	1.0	0.1	8.0	+0.07	13
CHPZ13VPT	12.4	13	14.1	5.0	30	170	1.0	0.1	8.0	+0.08	12
CHPZ14VPT	13.3	14	14.7	5.0	30	190	1.0	0.1	9.8	+0.08	11.5
CHPZ15VPT	14.2	15	15.8	5.0	30	200	1.0	0.05	10.5	+0.08	11
CHPZ16VPT	15.2	16	16.8	5.0	40	200	1.0	0.05	11.2	+0.08	10
CHPZ17VPT	16.1	17	17.9	5.0	40	215	1.0	0.05	11.9	+0.08	9.6
CHPZ18VPT	17.1	18	18.9	5.0	45	225	1.0	0.05	12.6	+0.08	9.2
CHPZ19VPT	18.0	19	20.0	5.0	45	225	1.0	0.05	13.3	+0.08	8.7
CHPZ20VPT	19.0	20	21.0	5.0	55	225	1.0	0.05	14.0	+0.08	8.3
CHPZ22VPT	20.9	22	23.1	5.0	55	250	1.0	0.05	15.4	+0.09	7.6
CHPZ24VPT	22.8	24	25.2	5.0	70	250	1.0	0.05	16.8	+0.09	7.0
CHPZ25VPT	23.7	25	26.3	5.0	70	275	1.0	0.05	17.5	+0.09	6.6
CHPZ27VPT	25.1	27	28.9	2.0	80	300	0.5	0.05	18.9	+0.09	6.2
CHPZ28VPT	27.1	28	29.9	2.0	80	300	0.5	0.05	19.6	+0.09	5.9
CHPZ30VPT	28.0	30	32.0	2.0	80	300	0.5	0.05	21.0	+0.09	5.6
CHPZ33VPT	31.0	33	35.0	2.0	80	325	0.5	0.05	23.1	+0.09	5.0

# RATING CHARACTERISTIC CURVES ( CHPZ3V6PT THRU CHPZ33VPT )

