



CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

SURFACE MOUNT SWITCHING DIODE

VOLTAGE 300 Volts CURRENT 0.2 Ampere

CHBD2004SGP

APPLICATION

- * Ultra high speed switching

FEATURE

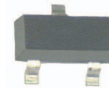
- * Small surface mounting type. (SOT-23)
- * High speed. ($T_{RR}=50$ nSec Typ.)
- * Suitable for high packing density.
- * Maximum total power dissipation is 350mW.
- * Peak forward current is 625mA.
- * High voltage capability.

CONSTRUCTION

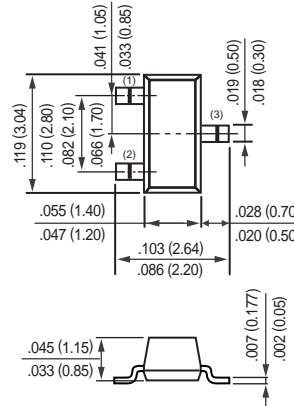
- * Silicon epitaxial planar

MARKING

- * KL9



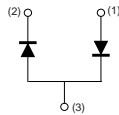
SOT-23



Dimensions in millimeters

SOT-23

CIRCUIT



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

RATINGS		SYMBOL	CHBD2004SGP	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.	@ $T_P = 1\text{mSec}$	I_{FSM}	4.0	Amps
	@ $T_P = 1\text{Sec}$		1.0	
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	$^\circ\text{C/W}$
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	CHBD2004SGP	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 $V_R = 240\text{V}$	@ $T_A = 25^\circ\text{C}$	I_R	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.

2001-11

RATING CHARACTERISTIC CURVES (CHBD2004SGP)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURRENT

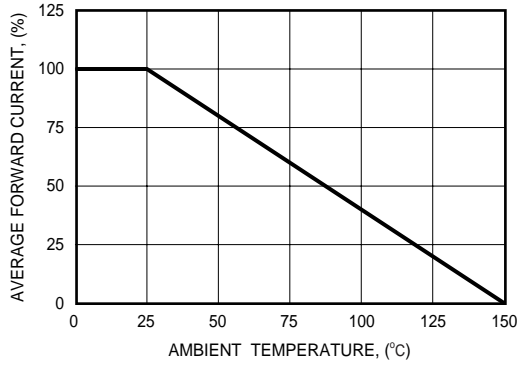


FIG. 2 - FORWARD CHARACTERISTICS

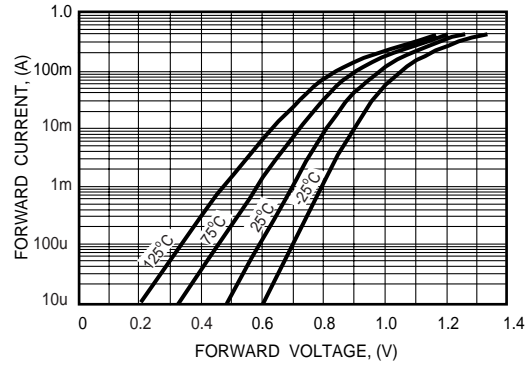


FIG. 3 - REVERSE CHARACTERISTICS

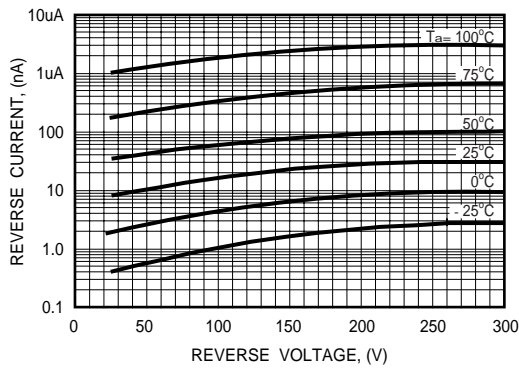


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

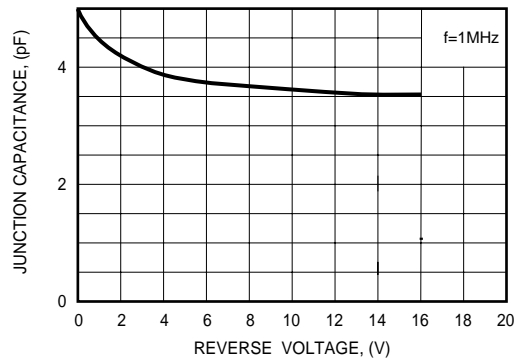


FIG. 5 - REVERSE RECOVERY TIME

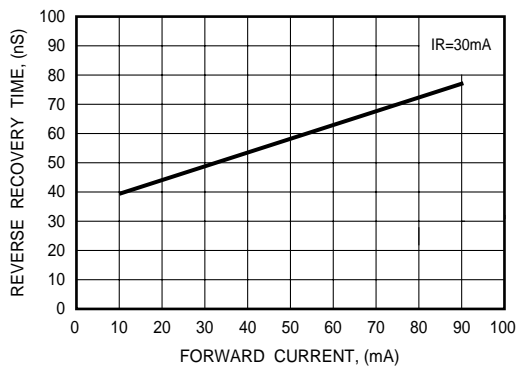


FIG. 6 - REVERSE RECOVERY TIME MEASUREMENT CIRCUIT

