



BAT54

DIODE

SCHOTTKY BARRIER DIODE

DESCRIPTION

Planar Schottky barrier diodes are encapsulated in the SOT-23 small plastic SMD package. Single diodes and dual diodes with different pin configuration are available.

FEATURES

- * Low forward voltage
- * Guard ring protected
- * Small plastic SMD package

SYMBOL

SOT-23	X1DFN1006-2

ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
BAT54L-AE3-R	BAT54G-AE3-R	SOT-23	A	NC	K	Tape Reel
BAT54L-KAA-R	BAT54G-KAA-R	X1DFN1006-2	K	A	-	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

	<p>(1)Packing Type (2)Package Type (3)Green Package</p>	<p>(1) R: Tape Reel (2) AE3: SOT-23, KAA: X1DFN1006-2 (3) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING

SOT-23	X1DFN1006-2

■ ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
PER DIODE				
Continuous Reverse Voltage		V _R	30	V
Continuous Forward Current		I _F	200	mA
Repetitive Peak Forward Current (t _P <1s, δ≤0.5)		I _{FRM}	300	mA
Non-repetitive Peak Forward Current (t _P <10ms)		I _{FSM}	600	mA
Junction Temperature		T _J	+125	°C
Storage Temperature		T _{STG}	-60 ~ +150	°C
PER DEVICE				
Power Dissipation (T _A ≤ 25°C)	SOT-23	P _D	230	mW
	X1DFN1006-2		250	mW

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	SOT-23	θ_{JA}	540	°C/W
	X1DFN1006-2	θ_{JA}	500	°C/W

■ ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage (See Fig.1)	V_F	$I_F = 0.1\text{mA}$			240	mV
		$I_F = 1\text{mA}$			320	mV
		$I_F = 10\text{mA}$			400	mV
		$I_F = 30\text{mA}$			500	mV
		$I_F = 100\text{mA}$			800	mV
Reverse Current (See Fig.2)	I_R	$V_R = 25\text{V}$			2	μA
Reverse Recovery Time (see Fig.4)	t_{rr}	When switched from $I_F = 10\text{mA}$ to $I_R = 10\text{mA}$, $R_L = 100\Omega$ measured at $I_R = 1\text{mA}$			5	ns
Diode Capacitance (see Fig.3)	C_D	$f = 1\text{MHz}$, $V_R = 1\text{V}$			10	pF

■ TYPICAL CHARACTERISTICS

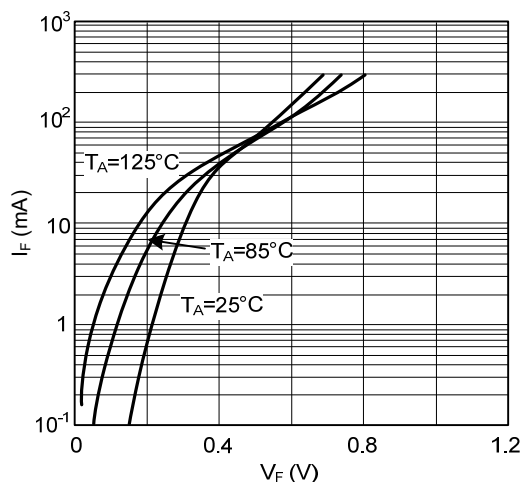


Fig.1 Forward current as a function of forward voltage; typical values.

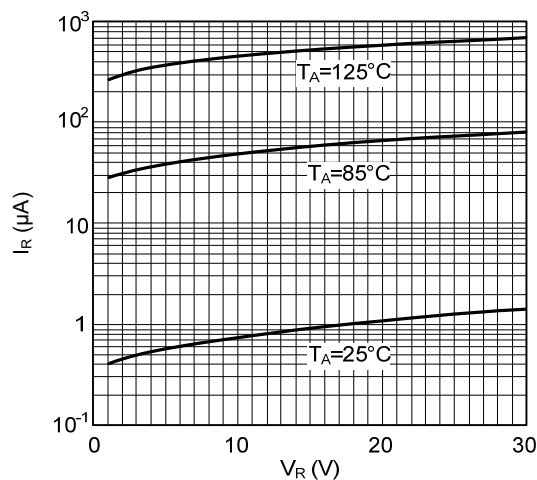


Fig.2 Reverse current as a function of reverse voltage; typical values.

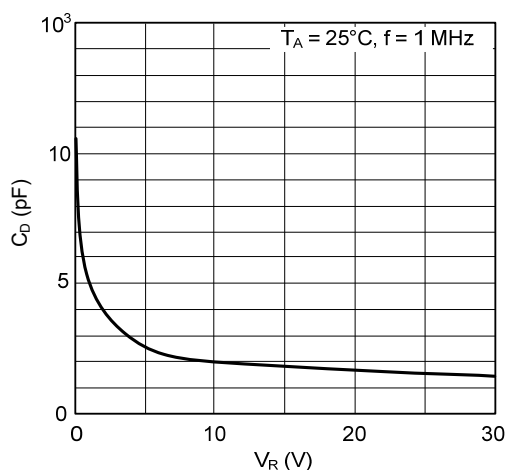


Fig.3 Diode capacitance as a function of reverse voltage; typical values.

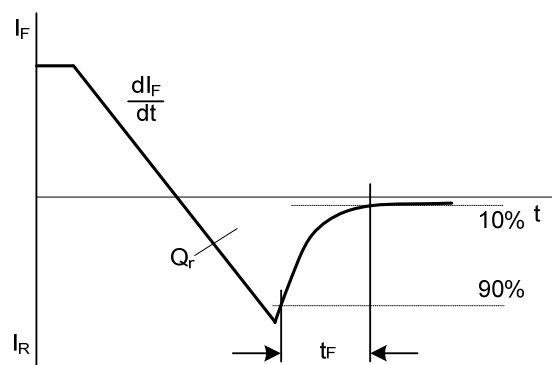


Fig.4 Reverse recovery definitions

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