



# BAS21

Preliminary

DIODE

## GENERAL PURPOSE DIODES

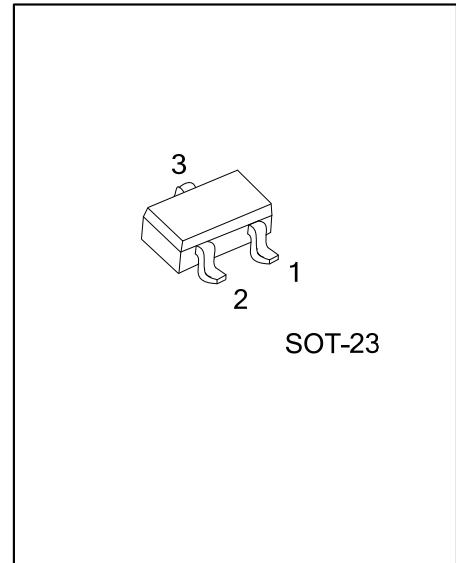
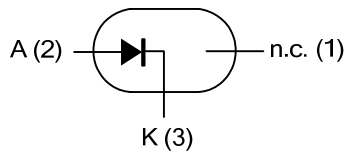
### DESCRIPTION

The UTC **BAS21** is a general purpose diode using UTC's planar technology to provide customers with high current capacity and high switching speed.

### FEATURES

- \* High Current Capability
- \* High Switching Speed

### SYMBOL



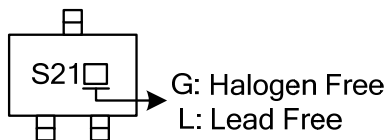
### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
BAS21L-AE3-R	BAS21G-AE3-R	SOT-23	x	A	K	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode x: NC

<p>BAS21L-AE3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Free</p>	<p>(1) R: Tape Reel</p> <p>(2) AE3: SOT-23</p> <p>(3) G: Halogen Free, L: Lead Free</p>
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### MARKING



■ **ABSOLUTE MAXIMUM RATINGS**

PARAMETER	SYMBOL	RATINGS	UNIT	
Repetitive Peak Reverse Voltage	$V_{RRM}$	250	V	
Continuous Reverse Voltage	$V_R$	200	V	
Continuous Forward Current (Note 1)	$I_F$	200	mA	
Repetitive Peak Forward Current	$I_{FRM}$	625	mA	
Non-Repetitive Peak Forward Current (Square Wave, $T_J=25^\circ\text{C}$ Prior to Surge)	$I_{FSM}$	$t=1\mu\text{s}$	9	A
		$t=100\mu\text{s}$	3	A
		$t=10\text{ms}$	1.7	A
Power Dissipation ( $T_A=25^\circ\text{C}$ ) (Note 1)	$P_D$	250	mW	
Junction Temperature	$T_J$	150	$^\circ\text{C}$	
Storage Temperature	$T_{STG}$	-65~+150	$^\circ\text{C}$	

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 CHARACTERISTICS**

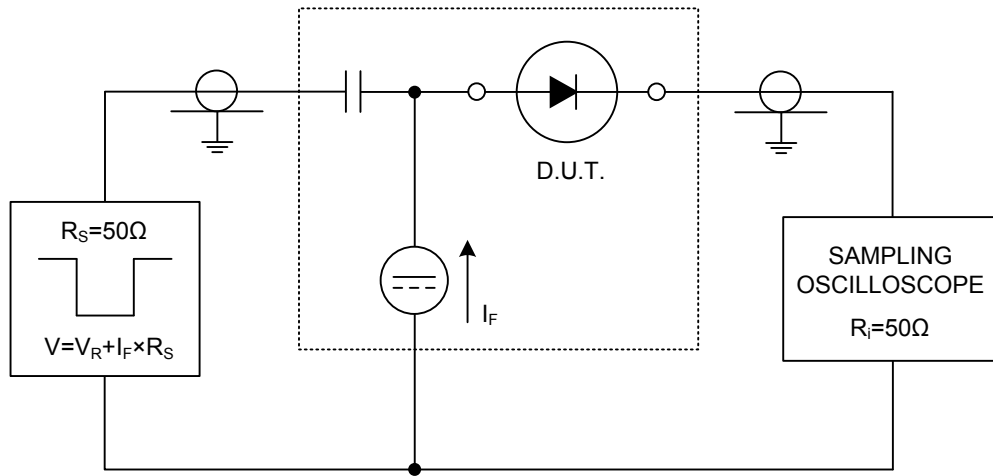
PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient (Note 1)	$\theta_{JA}$	330	K/W

Note: 1. Device mounted on an FR4 printed-circuit board.

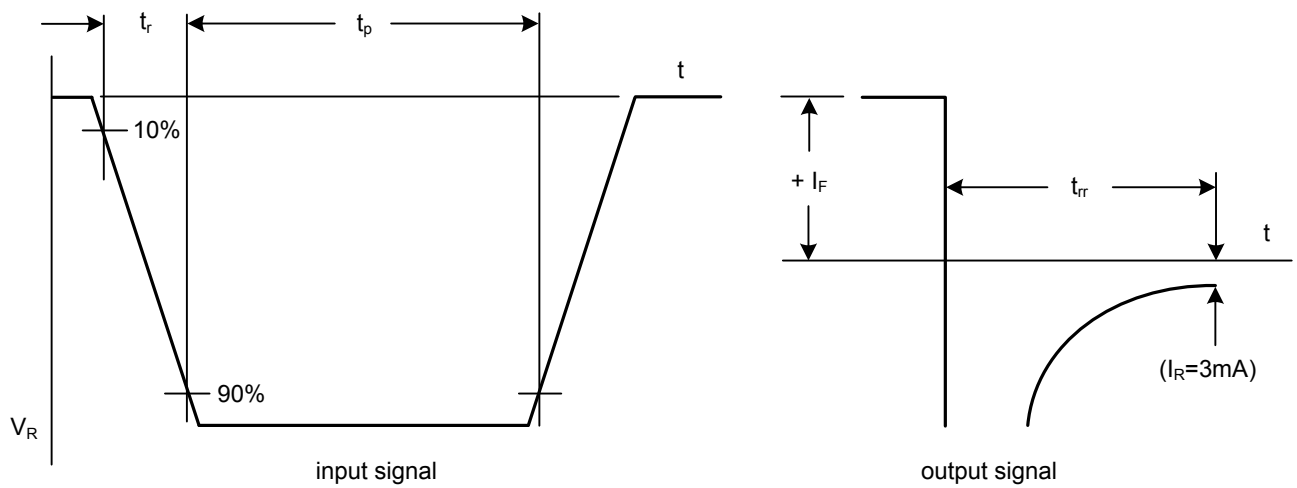
■ **ELECTRICAL CHARACTERISTICS** ( $T_J=25^\circ\text{C}$ , unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	$V_F$	$I_F=100\text{mA}$			1	V
		$I_F=200\text{mA}$			1.25	V
Reverse Current	$I_R$	$V_R=200\text{V}$			100	nA
		$V_R=200\text{V}, T_J=150^\circ\text{C}$			100	$\mu\text{A}$
Diode Capacitance	$C_D$	$f=1\text{MHz}, V_R=0$			5	pF
Reverse Recovery Time	$T_{RR}$	when switched from $I_F=30\text{mA}$ to $I_R=30\text{mA}$ , $R_L=100\Omega$ , measured at $I_R=3\text{mA}$			50	ns

■ TEST CIRCUITS AND WAVEFORMS



Reverse recovery voltage test circuit



Reverse recovery voltage waveforms

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