



BAS21

DIODE

GENERAL PURPOSE DIODES

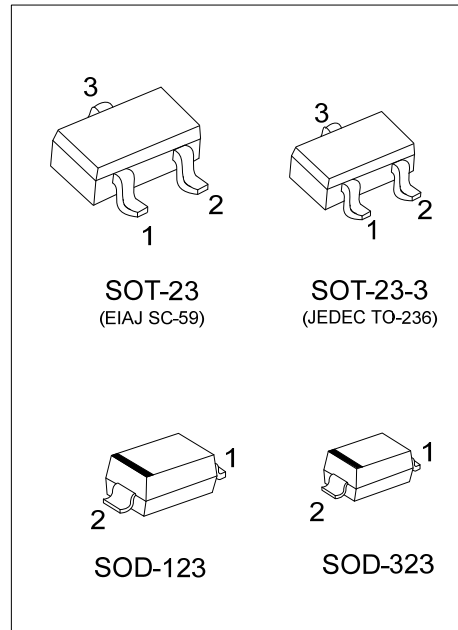
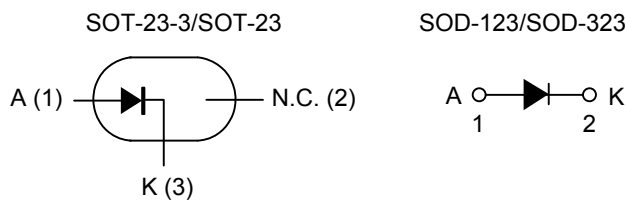
DESCRIPTION

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-AE2-R	BAS21G-AE2-R	SOT-23-3	A	NC	K	Tape Reel
BAS21L-AE3-R	BAS21G-AE3-R	SOT-23	A	NC	K	Tape Reel
BAS21L-CA2-R	BAS21G-CA2-R	SOD-123	A	K	NC	Tape Reel
BAS21L-CB2-R	BAS21G-CB2-R	SOD-323	A	K	NC	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode NC: No Connection

<p>BAS21G-AE2-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) R: Tape Reel</p> <p>(2) AE2: SOT-23-3, AE3: SOT-23, CA2: SOD-123 CB2: SOD-323</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING

SOT-23-3 / SOT-23	SOD-323
<p>L: Lead Free G: Halogen Free</p>	<p>L: Lead Free G: Halogen Free</p>

■ 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)	$t=1\mu\text{s}$	I_{FSM}	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)	SOT-23	P_D	250	mW
	SOT-23-3			
	SOD-123		410	mW
	SOD-323			
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

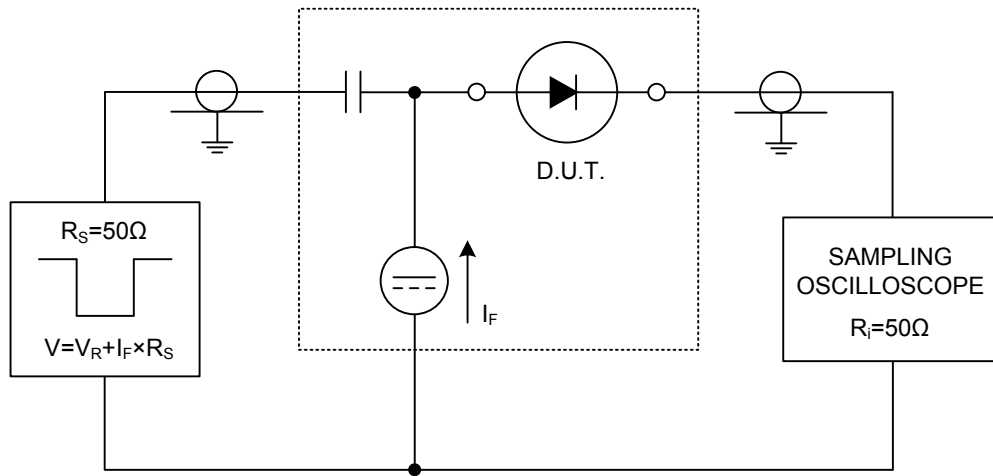
PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient (Note 1)	SOT-23	θ_{JA}	330	K/W
	SOT-23-3			
	SOD-123		200	K/W
	SOD-323			

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

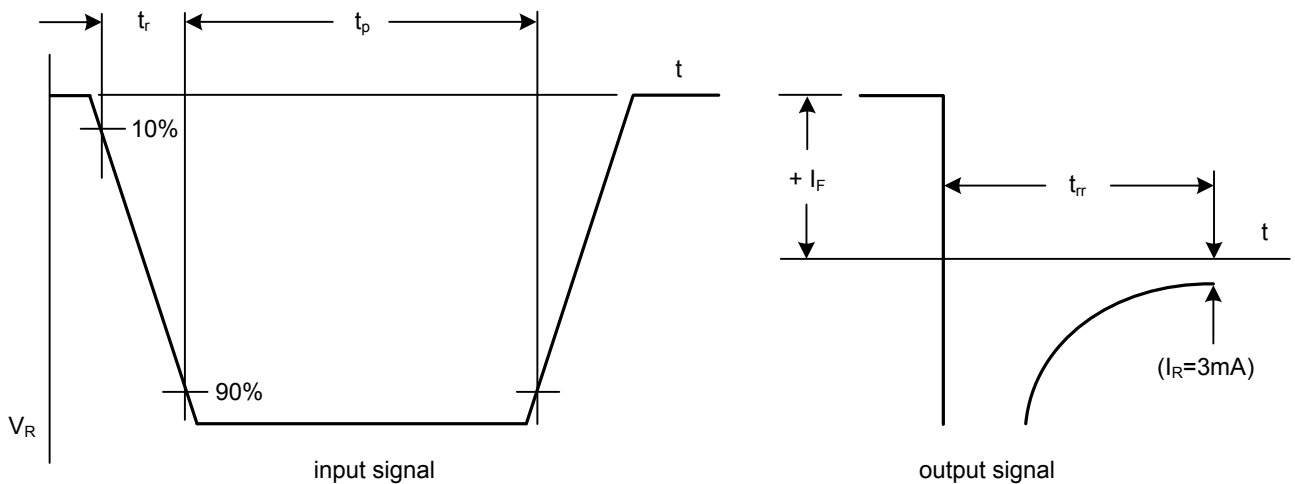
■ ELECTRICAL CHARACTERISTICS ($T_J=25^\circ\text{C}$, unless otherwise specified.)

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	μA
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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