

# PLANAR TUNNEL (BACK) DIODE

**DESCRIPTION:**

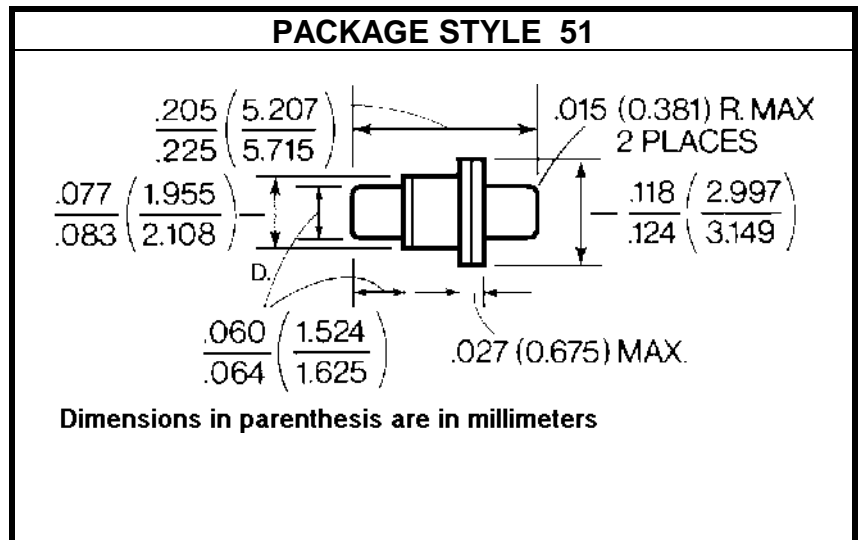
The **ASTD** Series of Tunnel Diodes are Optimized for Operation as Back Diode Detectors in Applications up to 18 GHz.

**FEATURES INCLUDE:**

- Excellent Temperature Stability
- Fast Rise / Fall Times
- Available in Die Form

**MAXIMUM RATINGS**

<b>I<sub>R</sub></b>	10 mA
<b>P<sub>DISS</sub></b>	3 ERG spike
<b>P<sub>DISS</sub></b>	50 mW @ T <sub>A</sub> = +60 °C
<b>T<sub>J</sub></b>	-65 to +110 °C
<b>T<sub>STG</sub></b>	-65 to +125 °C


**ELECTRICAL CHARACTERISTICS** T<sub>C</sub> = 25 °C

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
<b>I<sub>P</sub></b>	ASTD 1020	100		200	μA
	ASTD 2030	200		300	
	ASTD 3040	300		400	
	ASTD 4050	400		500	
	ASTD 5060	500		600	
<b>V<sub>F</sub></b>	I <sub>F</sub> = 3 mA				
	ASTD 1020			135	mV
	ASTD 2030			130	
	ASTD 3040			125	
	ASTD 4050			120	
ASTD 5060			110		
<b>V<sub>R</sub></b>	I <sub>R</sub> = 500 μA	400			mV



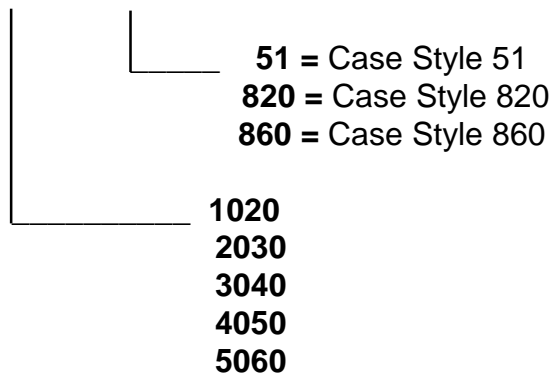
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### DYNAMIC ELECTRICAL CHARACTERISTICS $T_C = 25\text{ }^\circ\text{C}$

Symbol	Test Conditions	Minimum	Typical	Maximum	Units
$\lambda$	F = 10 GHz $R_L = 10\text{ K}\Omega$	ASTD 1020	1,000		mV/mW
	$P_{IN} = -20\text{ dBm}$	ASTD 2030	750		
		ASTD 3040	500		
		ASTD 4050	275		
		ASTD 5060	250		
$R_v$	F = 10 GHz $R_L = 10\text{ K}\Omega$	ASTD 1020	180		$\Omega$
	$P_{IN} = -20\text{ dBm}$	ASTD 2030	130		
		ASTD 3040	80		
		ASTD 4050	65		
		ASTD 5060	60		
$R_s$	$I_R = 10\text{ mA}$ F = 100 MHz			7.0	$\Omega$

### ORDERING INFORMATION:

**ASTD-XXXX-XX**



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