

## **Features**

- · Epitaxial Planar Die Construction
- · Built-In Biasing Resistors
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- · Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant.See Ordering Information)

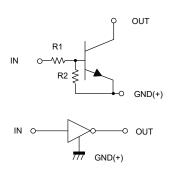
#### Maximum Ratings @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Тур	Max	Unit
Supply Voltage	V <sub>CC</sub>			50	V
Input Voltage	V <sub>IN</sub>	-5		+10	V
Collector Current	I <sub>c</sub>			100	mA
Power Dissipation	P <sub>D</sub>			200	mW
Thermal Resistance Junction to Ambient	$R_{thja}$			625	°C/W
Junction Temperature	T <sub>J</sub>	-55		150	°C
Storage Temperature	T <sub>stg</sub>	-55		150	°C

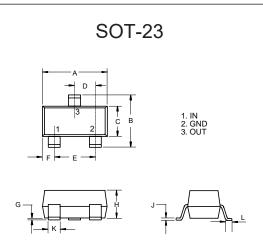
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

## **Device Marking: E21**

#### Internal Structure

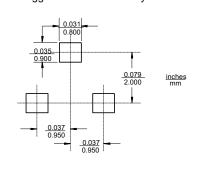


# NPN Digital Transistor



DIMENSIONS					
DIM	INCHES		M	М	NOTE
	MIN	MAX	MIN	MAX	INOIL
Α	0.110	0.120	2.80	3.04	
В	0.083	0.104	2.10	2.64	
С	0.047	0.055	1.20	1.40	
D	0.034	0.041	0.85	1.05	
E	0.067	0.083	1.70	2.10	
F	0.018	0.024	0.45	0.60	
G	0.0004	0.006	0.01	0.15	
Н	0.035	0.043	0.90	1.10	
J	0.003	0.007	0.08	0.18	
K	0.012	0.020	0.30	0.51	
L	0.007	0.020	0.20	0.50	

## Suggested Solder Pad Layout



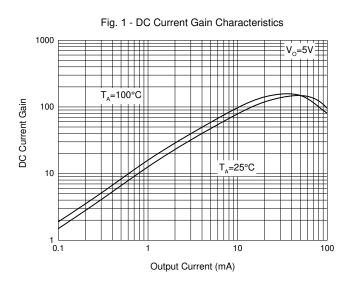


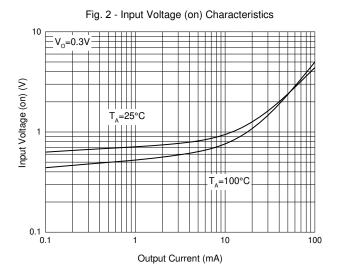
## Electrical Characteristics @ 25°C Unless Otherwise Specified

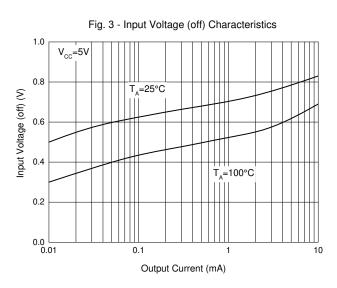
Parameter	Symbol	Min	Тур	Max	Unit	Conditions
Input Voltage	$V_{I(off)}$	0.3			V	V <sub>CC</sub> =5V, I <sub>O</sub> =100μA
	V <sub>I(on)</sub>			3.0	V	V <sub>O</sub> =0.3V, I <sub>O</sub> =20mA
Output Voltage	V <sub>O(on)</sub>			0.3	V	I <sub>O</sub> =10mA,I <sub>I</sub> =0.5mA
Input Current	I <sub>I</sub>			7.2	mA	V <sub>1</sub> =5V
Output Current	I <sub>O(off)</sub>			0.5	μA	V <sub>CC</sub> =50V, V <sub>I</sub> =0
DC Current Gain	Gı	33				$V_O=5V$ , $I_O=5mA$
Input Resistance	R <sub>1</sub>	0.7	1.0	1.3	ΚΩ	
Resistance Ratio	R <sub>2</sub> /R <sub>1</sub>	8	10	12		
Transition Frequency	f <sub>T</sub>		250		MHz	V <sub>CE</sub> =10V, I <sub>E</sub> =-5mA, f=100MHz

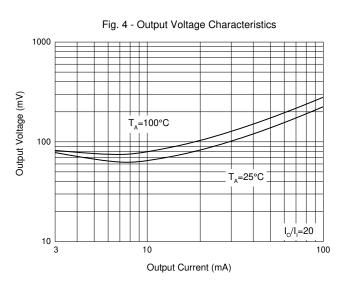


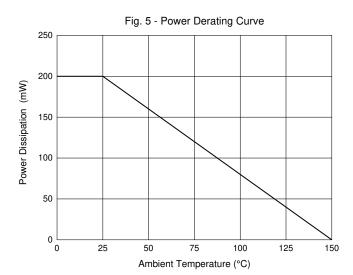
## **Curve Characteristics**













## **Ordering Information**

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/Reel

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