

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)

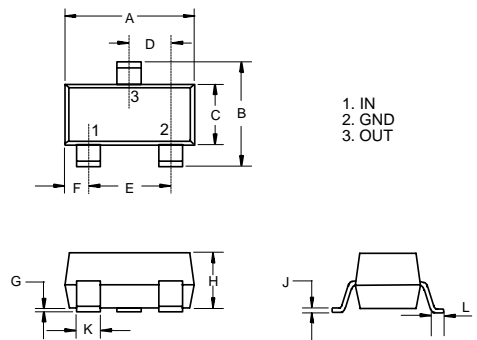
**NPN
Digital Transistor**

Maximum Ratings @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	V_{CC}	---	50	---	V
Emitter-Base Voltage	V_{EBO}	---	---	5	V
Output Current	I_O	---	500	---	mA
Power Dissipation	P_D	---	200	---	mW
Junction Temperature	T_J	---	---	150	°C
Storage Temperature	T_{stg}	-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.

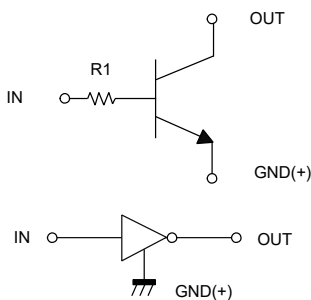
SOT-23



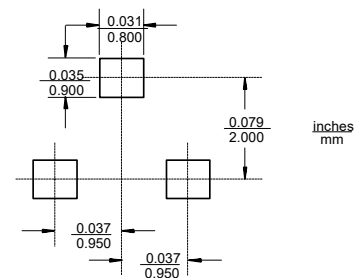
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.110	0.120	2.80	3.04	
B	0.083	0.104	2.10	2.64	
C	0.047	0.055	1.20	1.40	
D	0.034	0.041	0.85	1.05	
E	0.067	0.083	1.70	2.10	
F	0.018	0.024	0.45	0.60	
G	0.0004	0.006	0.01	0.15	
H	0.035	0.043	0.90	1.10	
J	0.003	0.007	0.08	0.18	
K	0.012	0.020	0.30	0.51	
L	0.007	0.020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

Device Marking: N78

Internal Structure



Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Input Voltage	$V_{I(off)}$	0.3	---	---	V	$V_{CC}=5V, I_O=100\mu A$
	$V_{I(on)}$	---	---	3	V	$V_O=0.3V, I_O=20mA$
Output Voltage	$V_{O(on)}$	---	---	0.3	V	$I_O=50mA, I_I=2.5mA$
Output Current	$I_{O(off)}$	---	---	0.5	μA	$V_{CC}=50V, V_I=0$
DC Current Gain	G_I	56	---	---		$V_O=5V, I_O=50mA$
Input Resistance	R_I	0.35	0.47	0.59	K Ω	
Transition Frequency	f_T	---	200	---	MHz	$V_{CE}=10V, I_E=-5mA, f=100MHz$

Ordering Information

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

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