

**Features**

- 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**

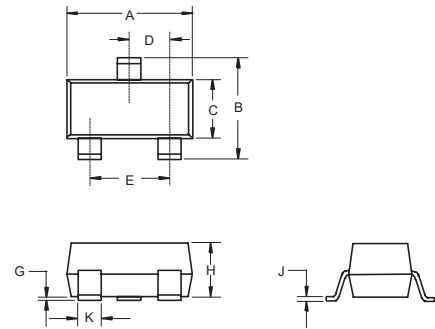
- Thermal Resistance: 625°C/W Junction to Ambient

Parameter	Symbol	Value	Unit
Supply Voltage	$V_{CC}$	50	V
Input Voltage	$V_{IN}$	-10~+40	V
Output Current	$I_O$	100	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.

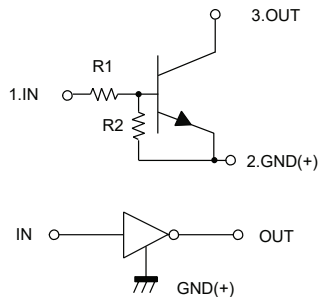
**NPN  
Digital Transistor**

**SOT-23-3L**

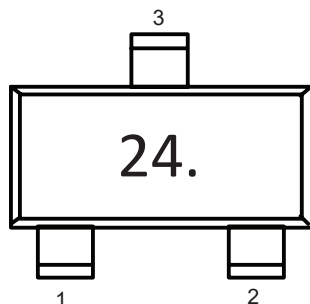


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.113	0.117	2.87	2.97	
B	0.108	0.112	2.75	2.85	
C	0.061	0.065	1.55	1.65	
D	0.036	0.038	0.914	0.965	
E	0.073	0.077	1.85	1.95	
G	0.0016	0.0039	0.04	0.100	
H	0.041	0.045	1.05	1.15	
J	0.006	0.007	0.14	0.17	
K	0.012	0.020	0.30	0.50	

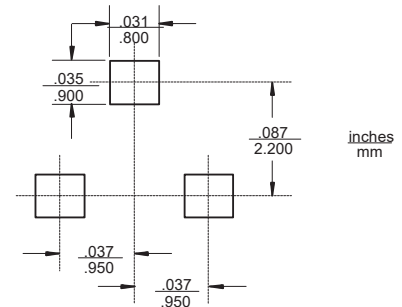
**Internal Structure**



**Marking Code**



**Suggested Solder Pad Layout**



Electrical Characteristics @ T<sub>A</sub>=25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Input Voltage	V <sub>I(off)</sub>	0.5	---	---	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> =10mA
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>	---	---	0.88	mA	V <sub>I</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	G <sub>I</sub>	30	---	---		V <sub>O</sub> =5V, I <sub>O</sub> =5mA
Input Resistance	R <sub>1</sub>	7	10	13	KΩ	
Resistance Ratio	R <sub>2</sub> /R <sub>1</sub>	0.8	1.0	1.2		
Transition Frequency	f <sub>T</sub>	200	---	---	MHz	V <sub>O</sub> =10V, I <sub>O</sub> =5mA, f=100MHz
Output Capacitance	C <sub>ob</sub>	---	---	3.0	pF	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz

**Curve Characteristics**

Fig. 1 - DC Current Gain Characteristics

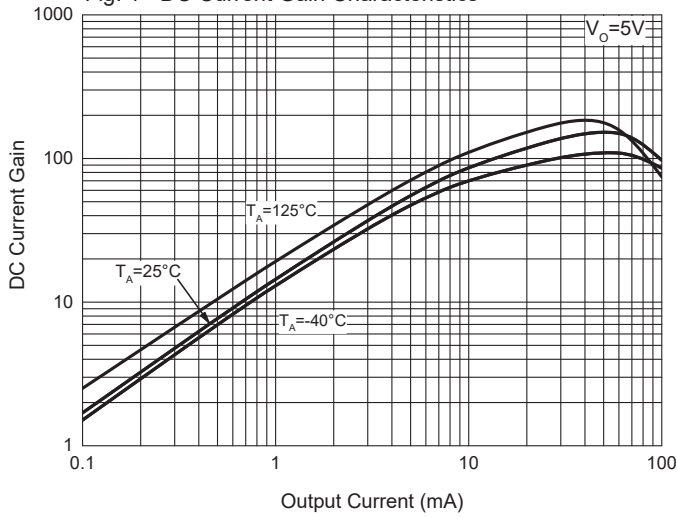


Fig. 2 - Input Voltage (on) Characteristics

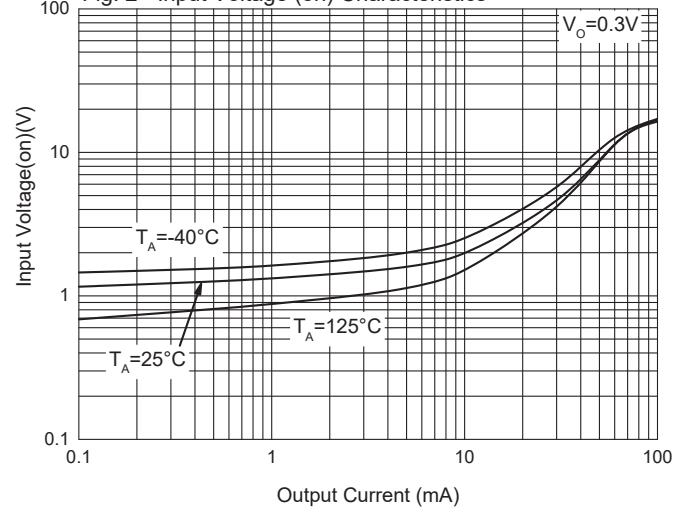


Fig. 3 - Input Voltage (off) Characteristics

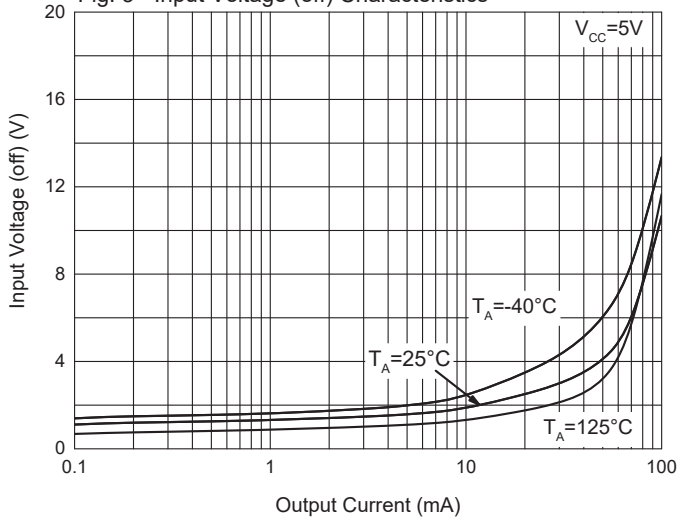


Fig. 4 - Output Voltage Characteristics

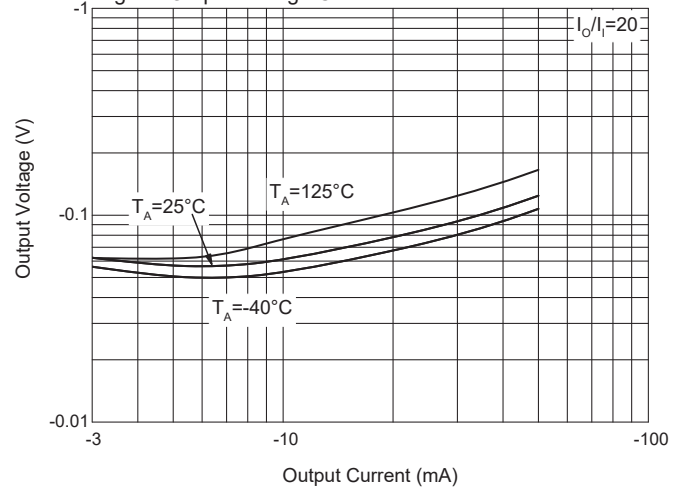
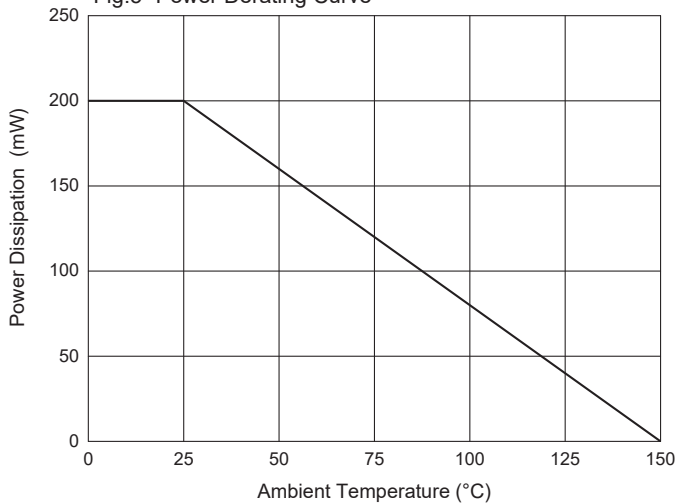


Fig.5- Power Derating Curve



## Ordering Information

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

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