DTA143ZCA-TP Datasheet

DiGi Electronics Part Number	DTA143ZCA-TP-DG
Manufacturer	Micro Commercial Co
Manufacturer Product Number	DTA143ZCA-TP
Description	TRANS PREBIAS PNP 50V SOT23
Detailed Description	Pre-Biased Bipolar Transistor (BJT) PNP - Pre-Biased 50 V 100 mA 250 MHz 200 mW Surface Mount SOT-23

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
DTA143ZCA-TP	Micro Commercial Co
Series:	Product Status:
-	Active
Transistor Type:	Current - Collector (Ic) (Max):
PNP - Pre-Biased	100 mA
Voltage - Collector Emitter Breakdown (Max):	Resistor - Base (R1):
50 V	4.7 kOhms
Resistor - Emitter Base (R2):	DC Current Gain (hFE) (Min) @ Ic, Vce:
47 kOhms	80 @ 10mA, 5V
Vce Saturation (Max) @ Ib, Ic:	Current - Collector Cutoff (Max):
300mV @ 250µA, 5mA	500nA
Frequency - Transition:	Power - Max:
250 MHz	200 mW
Mounting Type:	Package / Case:
Surface Mount	TO-236-3, SC-59, SOT-23-3
Supplier Device Package:	Base Product Number:
SOT-23	DTA143

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.21.0075	

Features

- Built-In Bias Resistors Enable the Configuration of an Inverter Circuit Without Connecting External Input Resistors
- The Bias Resistors Consist of Thin-Film Resistors With Complete Isolation to Allow Negative Biasing of the Input. They Also Have the Advantage of Almost Completely Eliminating Parasitic Effects
- Only the On/Off Conditions Need to Be Set For Operation, Making Device Design Easy
- 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)

PNP
Digital Transistor

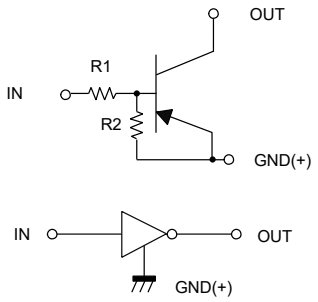
Maximum Ratings @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	V_{CC}	---	-50	---	V
Input Voltage	V_{IN}	-30	---	5	V
Output Current	I_O	---	-100	---	mA
	$I_{C(Max)}$	---	-100	---	mA
Power Dissipation	P_D	---	200	---	mW
Junction Temperature	T_J	---	---	150	°C
Storage Temperature	T_{stg}	-55	---	150	°C

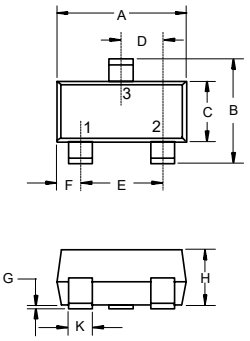
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Device Marking：E13

Internal Structure

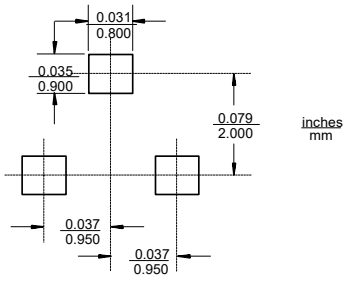


SOT-23



DIMENSIONS					
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	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Input Voltage	$V_{I(off)}$	-0.5	---	---	V	V_{CC}=-5V, I_O=-100μA
	$V_{I(on)}$	---	---	-1.3	V	V_O=-0.3V, I_O=-5mA
Output Voltage	$V_{O(on)}$	---	---	-0.25	V	I_O=-10mA,I_I=-1mA
Input Current	I_I	---	---	-1.8	mA	V_I=-5V
Output Current	$I_{O(off)}$	---	---	-0.5	μA	V_{CC}=-50V, V_I=0
DC Current Gain	G_I	80	---	---		V_O=-5V, I_O=-5mA
Input Resistance	R_1	3.29	4.7	6.11	KΩ	
Resistance Ratio	R_2/R_1	8	10	12		
Transition Frequency	f_T	---	250	---	MHz	V_{CE}=-10V, I_E=5mA, f=100MHz

Curve Characteristics

Fig. 1 - DC Current Gain Characteristics

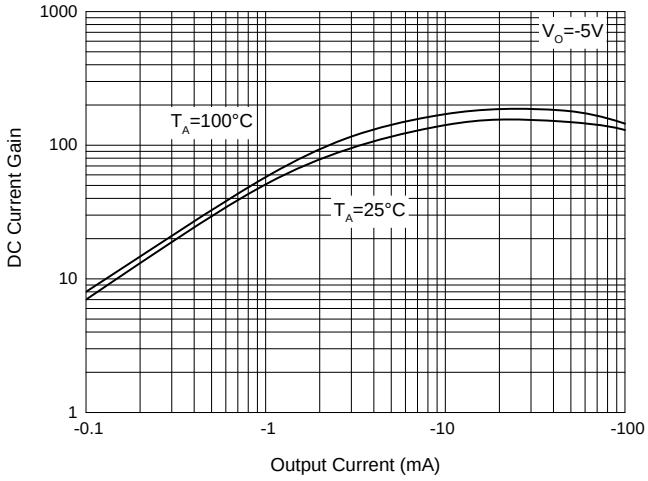


Fig. 2 - Input Voltage (on) Characteristics

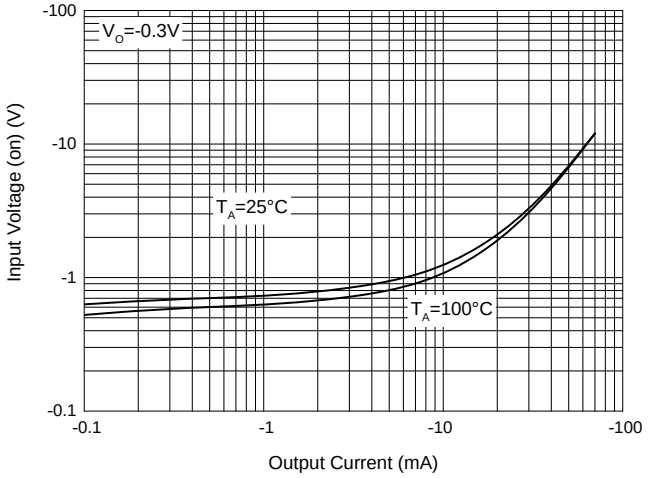


Fig. 3 - Input Voltage (off) Characteristics

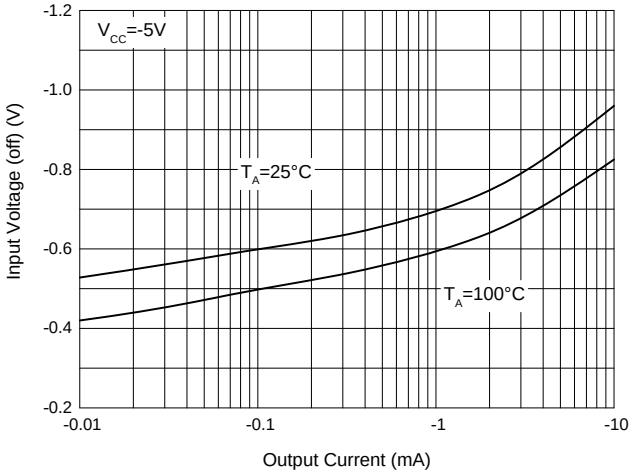


Fig. 4 - Output Voltage Characteristics

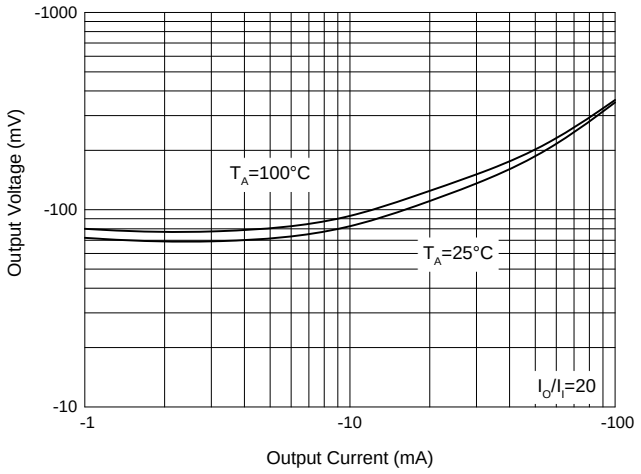
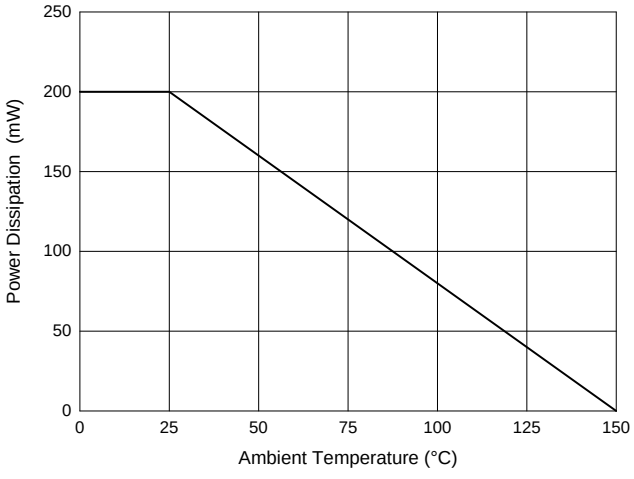


Fig. 5 - Power Derating Curve



Ordering Information

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

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