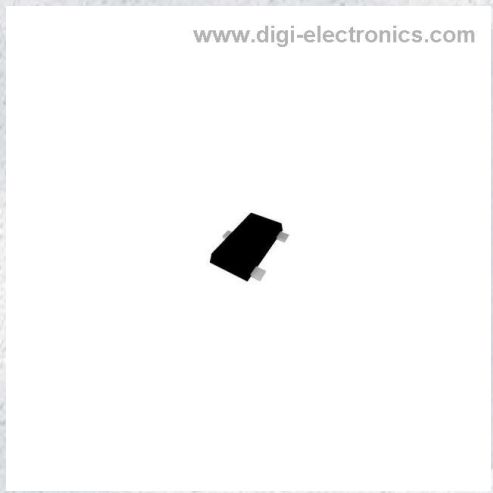
DTC123JM-TP Datasheet



https://www.DiGi-Electronics.com

DiGi Electronics Part Number	DTC123JM-TP-DG
Manufacturer	Micro Commercial Co
Manufacturer Product Number	DTC123JM-TP
Description	TRANS PREBIAS NPN 50V SOT723
Detailed Description	Pre-Biased Bipolar Transistor (BJT) NPN - Pre-Biased 50 V 100 mA 250 MHz 100 mW Surface Mount SOT-723

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
DTC123JM-TP	Micro Commercial Co
Series:	Product Status:
-	Active
Transistor Type:	Current - Collector (Ic) (Max):
NPN - Pre-Biased	100 mA
Voltage - Collector Emitter Breakdown (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
50 V	80 @ 10mA, 5V
Vce Saturation (Max) @ Ib, Ic:	Current - Collector Cutoff (Max):
300mV @ 250µA, 5mA	500nA
Frequency - Transition:	Power - Max:
250 MHz	100 mW
Mounting Type:	Package / Case:
Surface Mount	SOT-723
Supplier Device Package:	Base Product Number:
SOT-723	DTC123

Environmental & Export classification

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

NPN
Digital Transistor

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)

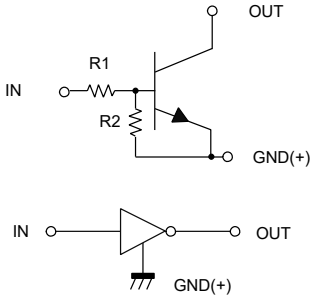
Maximum Ratings @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	V_{CC}	---	50	---	V
Input Voltage	V_{IN}	-5	---	12	V
Output Current	I_o	---	100	---	mA
Power Dissipation	P_D	---	100	---	mW
Junction Temperature	T_J	---	---	150	°C
Storage Temperature	T_{stg}	-55	---	150	°C

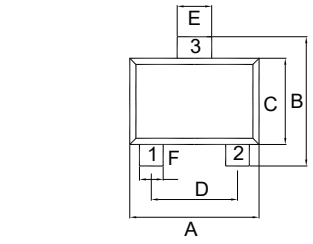
Note: 1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

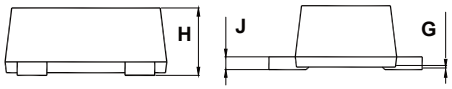
Device Marking：E42

Internal Structure



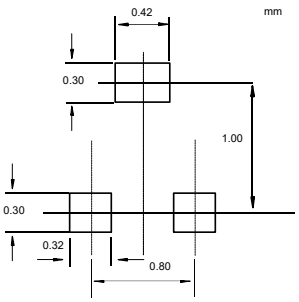
SOT-723





DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.043	0.051	1.10	1.30	
B	0.043	0.051	1.10	1.30	
C	0.028	0.035	0.70	0.90	
D	0.031		0.80		TYP.
E	0.009	0.017	0.22	0.42	
F	0.005	0.013	0.12	0.32	
G	0.000	0.002	0.00	0.05	
H	0.017	0.021	0.43	0.54	
J	0.003	0.006	0.08	0.15	

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
	$V_{I(on)}$	---	---	1.1	V	V_O=0.3V, I_O=5mA
Output Voltage	$V_{O(on)}$	---	0.1	0.3	V	I_O=5mA,I_I=0.25mA
Input Current	I_I	---	---	3.6	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=10mA
Input Resistance	R_1	1.54	2.2	2.86	KΩ	
Resistance Ratio	R_2/R_1	17	21	26		
Transition Frequency	f_T	---	250	---	MHz	V_{CE}=10V, I_E=-5mA, f=100MHz

Curve Characteristics

Fig. 1 - DC Current Gain Characteristics

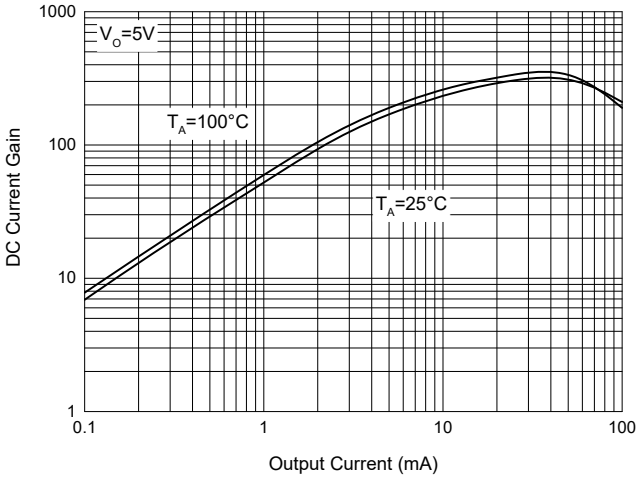


Fig. 2 - Input Voltage (on) Characteristics

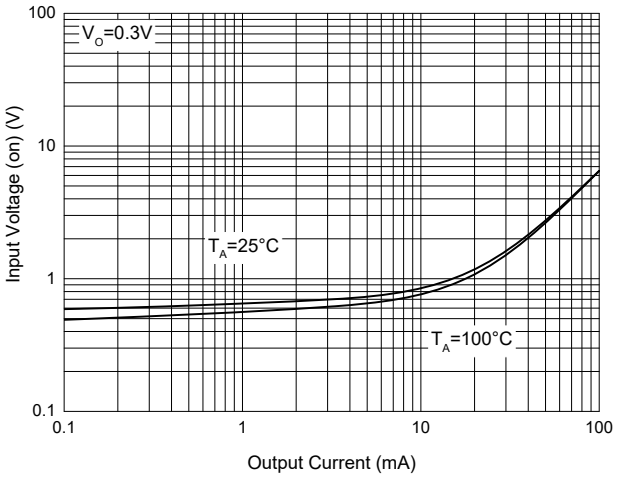


Fig. 3 - Input Voltage (off) Characteristics

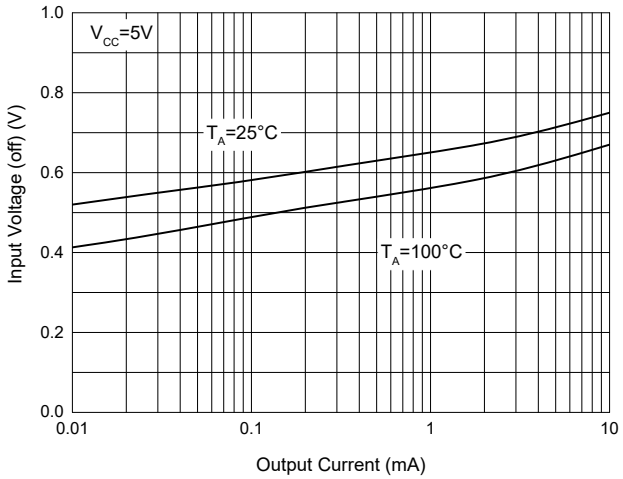


Fig. 4 - Output Voltage Characteristics

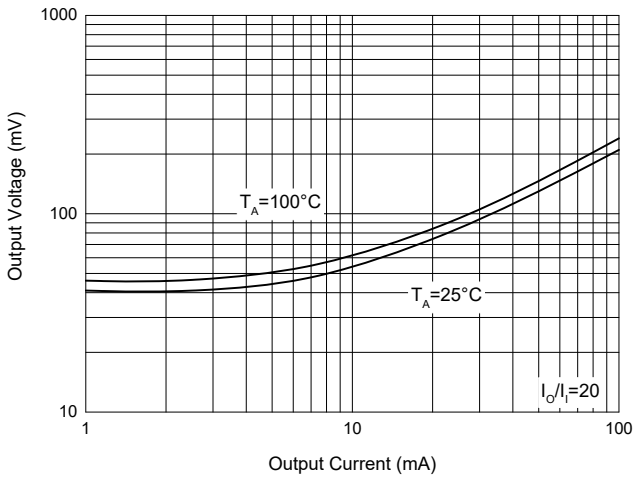
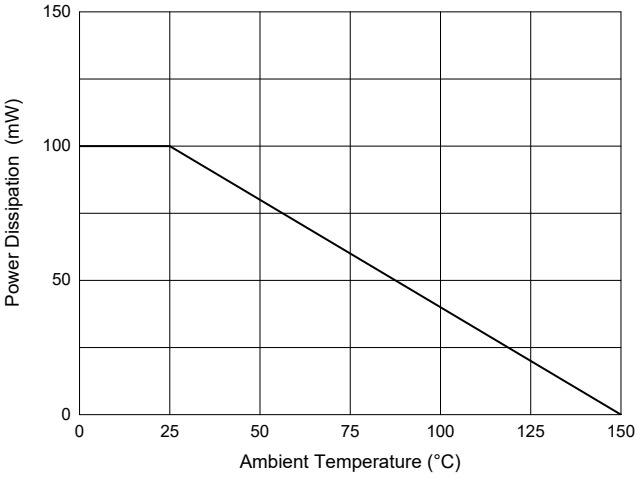


Fig. 5 - Power Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:8Kpcs/Reel

OUR CERTIFICATE

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