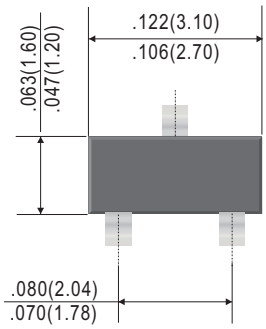
WILLAS

RoHS COMPLIANT

NPN Digital Transistor

DTC123JCA

SOT-23



Features

- Epitaxial Planar Die Construction
- Complementary NPN Types Available
- Built-In Biasing Resistors
- **Pb-Free package is available**

  RoHS product for packing code suffix "G"

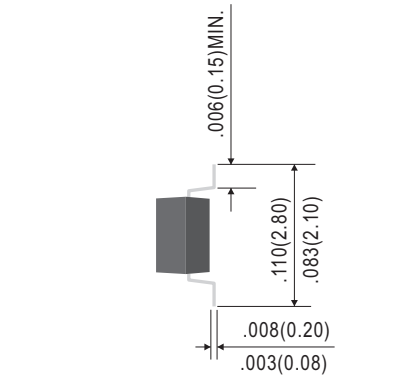
  Halogen free product for packing code suffix "H"
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1

Absolute maximum ratings @ 25℃

Symbol	Parameter	Min	Typ	Max	Unit
V_{CC}	Supply voltage	---	50	---	V
V_{IN}	Input voltage	-5	---	+12	V
P_d	Power dissipation	---	200	---	mW
T_j	Junction temperature	---	150	---	℃
T_{stg}	Storage temperature	-55	---	150	℃
I_O	Output current		100		mA
$I_{C(MAX)}$			100		

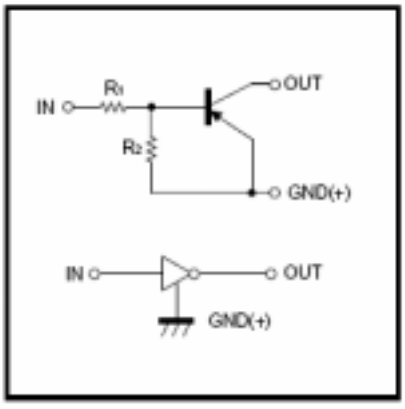
Electrical Characteristics @ 25℃

Symbol	Parameter	Min	Typ	Max	Unit
$V_{I(off)}$	Input voltage (V_{CC}=5V, I_O=100 μ A)	0.5	---	---	V
$V_{I(on)}$	(V_O=0.3V, I_O=5mA)	---	---	1.1	V
$V_{O(on)}$	Output voltage (I_O=5mA,I_I=0.25mA)	---	0.1	0.3	V
I_I	Input current (V_I=5V)	---	---	3.6	mA
$I_{O(off)}$	Output current (V_{CC}=50V, V_I=0)	---	---	0.5	μ A
G_I	DC current gain (V_O=5V, I_O=10mA)	80	---	---	
R_1	Input resistance	1.54	2.2	2.86	K Ω
R_2/R_1	Resistance ratio	17	21	26	
f_T	Transition frequency (V_O=10V, I_O=5mA, f=100MHz)	---	250	---	MHz



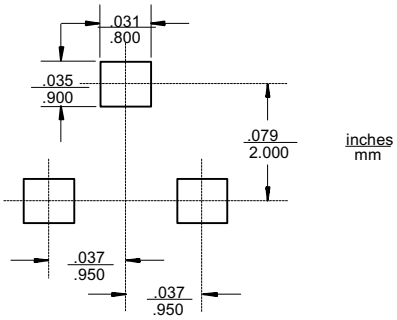
Dimensions in inches and (millimeters)

●Equivalent circuit



*Marking: E42

Suggested Solder Pad Layout



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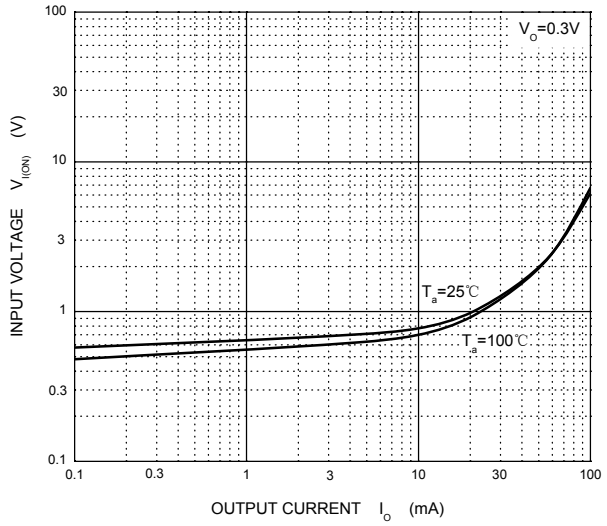
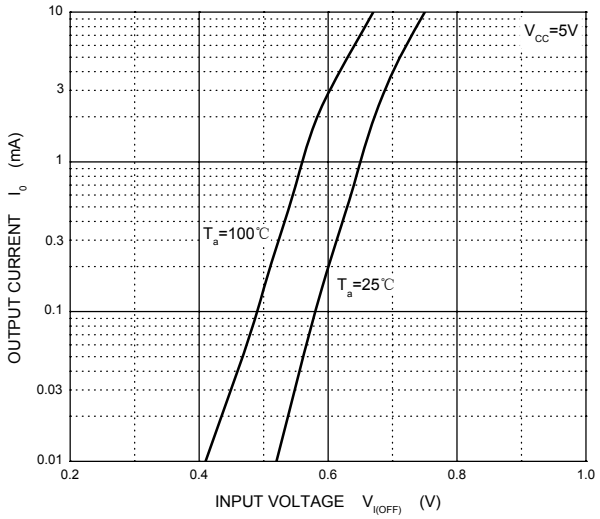
Typical Characteristics

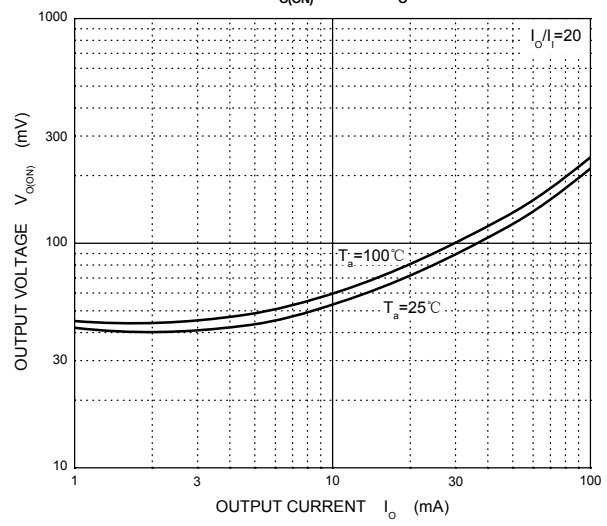
ON Characteristics



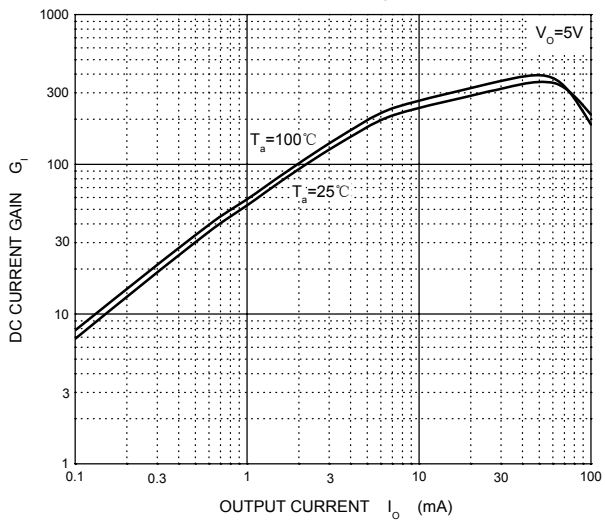
OFF Characteristics



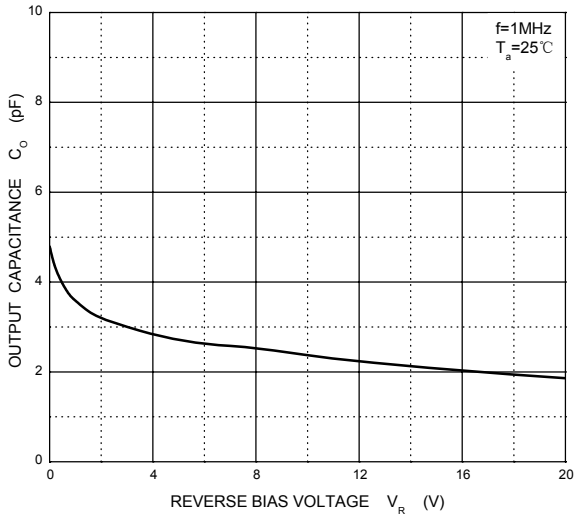
$V_{O(ON)}$ —— I_O



G_I —— I_O



C_O —— V_R



P_D —— T_a