



Micro Commercial Components

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 20736 Marilla Street Chatsworth  
 CA 91311  
 Phone: (818) 701-4933  
 Fax: (818) 701-4939

# DTC113ZCA

## Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epitaxial Planar Die Construction
- Complementary NPN Types Available
- Built-In Biasing Resistors
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: E21
- Halogen free available upon request by adding suffix "-HF"

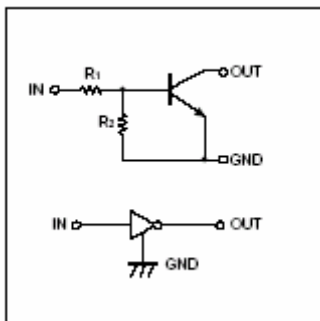
## Absolute maximum ratings @ 25°C

Symbol	Parameter	Min	Typ	Max	Unit
$I_C$	Collector current	---	100	---	mA
$V_{IN}$	Input voltage	-5	---	+10	V
$P_d$	Power dissipation	---	200	---	mW
$T_j$	Junction temperature	---	150	---	°C
$T_{stg}$	Storage temperature	-55	---	150	°C

## Electrical Characteristics @ 25°C

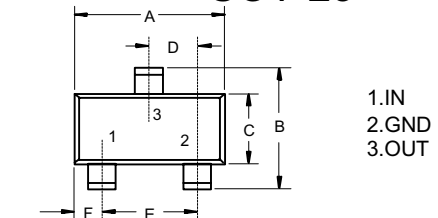
Symbol	Parameter	Min	Typ	Max	Unit
$V_{I(off)}$	Input voltage ( $V_{CC}=5V, I_O=100 \mu A$ )	---	---	0.3	V
$V_{I(on)}$	Input voltage ( $V_O=0.3V, I_O=20mA$ )	3.0	---	---	V
$V_{O(on)}$	Output voltage ( $I_O=10mA, I_I=0.5mA$ )	---	---	0.3	V
$I_I$	Input current ( $V_I=5V$ )	---	---	7.2	mA
$I_{O(off)}$	Output current ( $V_{CC}=50V, V_I=0$ )	---	---	0.5	$\mu A$
$G_1$	DC current gain ( $V_O=5V, I_O=5mA$ )	33	---	---	
$R_1$	Input resistance	0.7	1.0	1.3	K $\Omega$
$R_2/R_1$	Resistance ratio	8	10	12	
$f_T$	Transition frequency ( $V_{CE}=10V, I_E=5mA, f=100MHz$ )	---	250	---	MHz

### Equivalent circuit



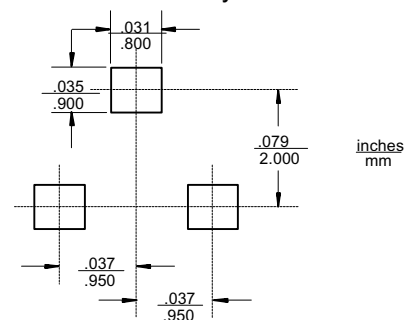
## Digital Transistors

### SOT-23



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

### Suggested Solder Pad Layout



## Typical Characteristics

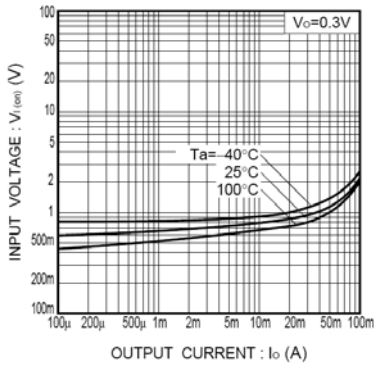


Fig.1 Input voltage vs. output current (ON characteristics)

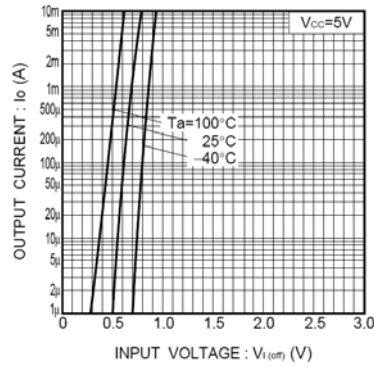


Fig.2 Output current vs. input voltage (OFF characteristics)

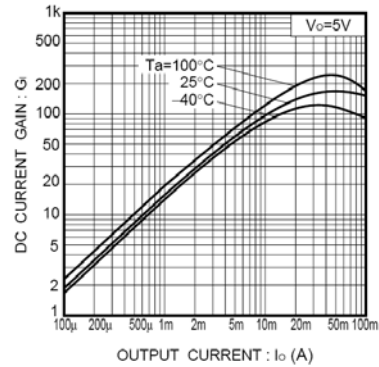


Fig.3 DC current gain vs. output current

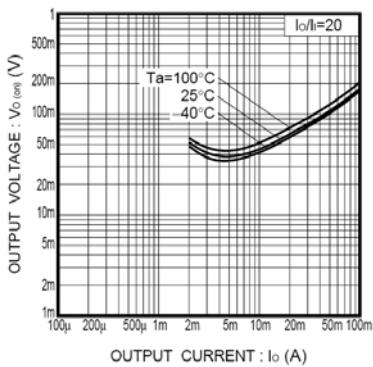


Fig.4 Output voltage vs. output current



TM

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## Ordering Information :

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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.