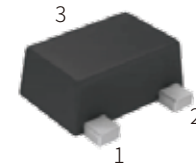
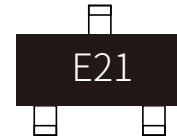


FEATURES

- Built-In Biasing Resistors $R_1 = 1k\Omega$, $R_2 = 10k\Omega$
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see inner circuit)
- Only the on/off conditions need to be set for operation, making the circuit design easy
- Complementary PNP Types: DTA113ZM



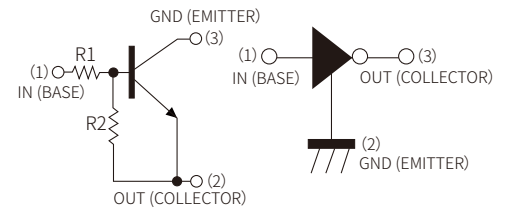
SOT-723



Marking

APPLICATION

- Inverter, Interface, Driver



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Supply voltage	V_{CC}	50	V
Input voltage	V_{IN}	-5 to 10	
Output current	I_O	100	mA
Collector current	$I_{C(MAX)}^{*1}$	100	mA
Power Dissipation	P_D^{*2}	150	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input voltage	V _{I(off)}	V _{CC} =5V, I _O =100μA			0.3	V
	V _{I(on)}	V _O =0.3V, I _O =20mA	3.0			
Output voltage	V _{O(on)}	I _O =10mA, I _I =0.5mA		100	300	mV
Input current	I _I	V _I =5V, I _E =0			7.2	mA
Output current	I _{O(off)}	V _{CC} =50V, V _I =0V			500	nA
DC current gain	G _I	V _O =5V, I _O =5mA	33			
Input resistance	R _I		0.7	1.0	1.3	kΩ
Resistance ratio	R _I /R ₂		8	10	12	
Transition frequency	f _T ⁻¹	V _{CE} =10V, I _E =-5mA, f=100MHz		250		MHz

*1 Characteristics of built-in transistor

*2 Each terminal mounted on a reference land

TYPICAL CHARACTERISTICS

Fig.1-Input Voltage vs. Output Current (ON Characteristics)

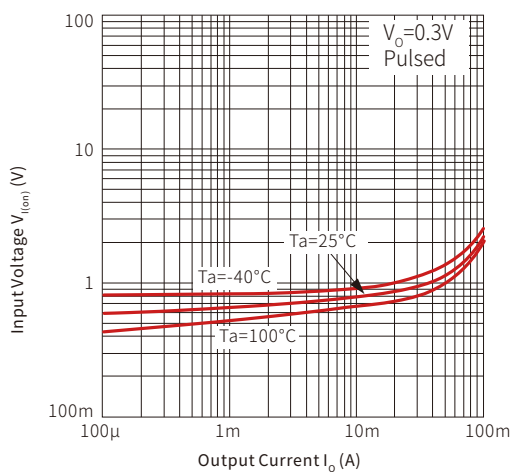


Fig.2-Output Current vs. Input Voltage (Off Characteristics)

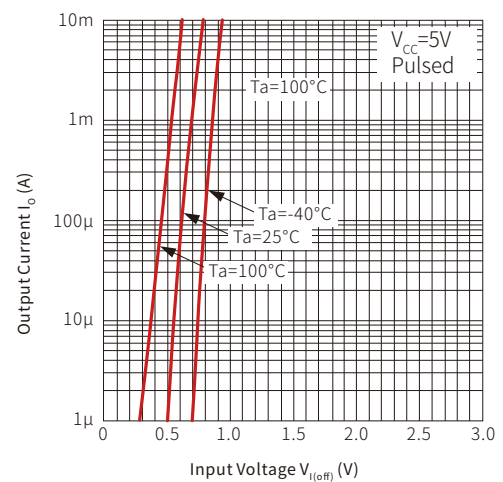
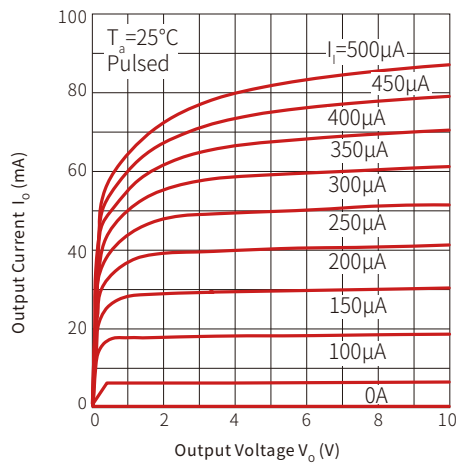
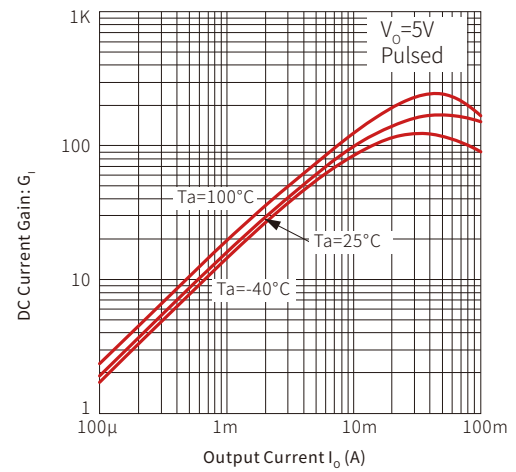
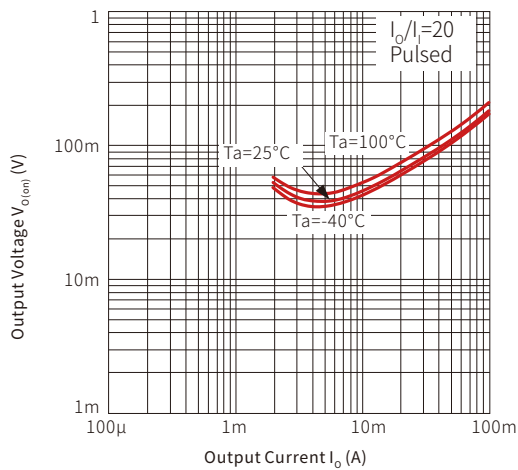
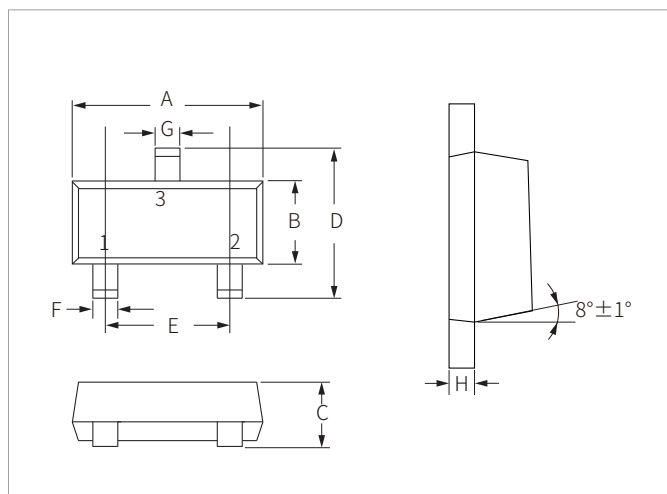


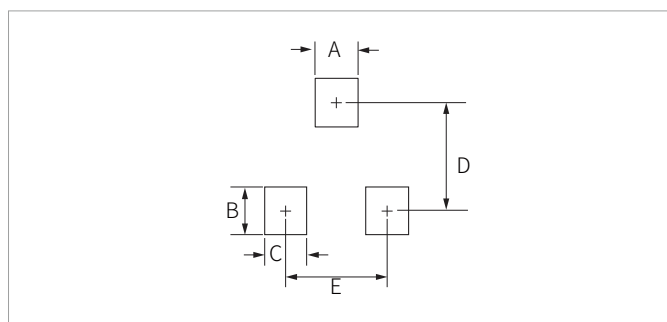
Fig.3 Output Current vs. Output Voltage

Fig.4 DC Current Gain vs. Collector Current

Fig.5 Output Voltage vs. Output Current


SOT-723 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.15	1.35	0.045	0.053
B	0.75	0.85	0.030	0.033
C	0.35	0.45	0.014	0.018
D	1.15	1.35	0.045	0.053
E	0.80TYP		0.031TYP	
F	0.175	0.25	0.007	0.010
G	0.225	0.30	0.009	0.012
H	0.09	0.13	0.003	0.005

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
	Dimensions	Dimensions
A	0.50	0.020
B	0.45	0.018
C	0.40	0.016
D	1.15	0.045
E	0.80	0.031

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
DTC113ZM	SOT-723	8000PCS	7"

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