迈拓电子
MAITUO ELECTRONIC

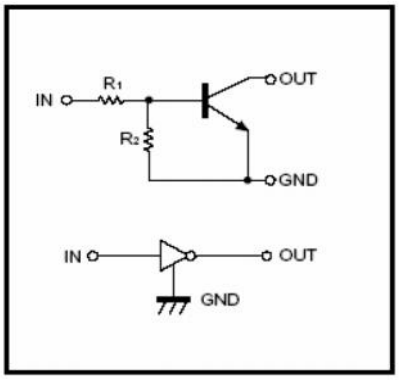
DTC143ZE / DTC143ZUA
DTC143ZCA / DTC143ZSA / DTC143ZM

FEATURES

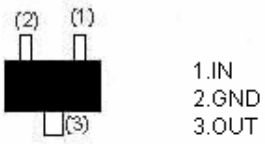
Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).

The bias resistors consist of thin-film resistors with complete isolation to allow positive 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.

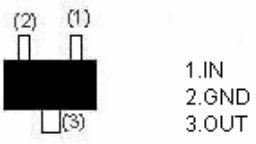


DTC143ZE (SOT-523)



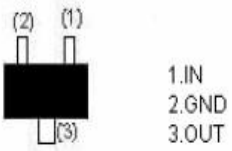
Addreviated symbol：E23

DTC143ZUA (SOT-323)



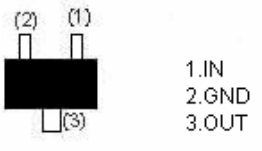
Addreviated symbol：E23

DTC143ZM (SOT-723)



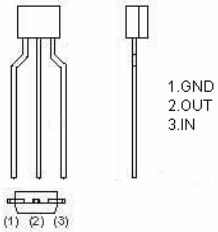
Addreviated symbol：E23

DTC143ZCA (SOT-23)



Addreviated symbol：E23

DTA143ZSA (TO-92S)



ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Parameter	Symbol	Limits (DTC143Z□)					Unit
		M	E	UA	CA	SA	
Collector-Base Voltage	V_{CC}	50					V
Input voltage	V_{IN}	-5~30					V
Output current	I_O	100					mA
	$I_{C(MAX)}$	100					
Power dissipation	P_D	100	150	200		300	mW
Junction & Storage temperature	T_J, T_{STG}	150, -55~150					℃

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Input voltage	$V_{I(off)}$	0.5	-	-	V	V_{CC}=5V, I_O=100μA
	$V_{I(on)}$	-	-	1.3		V_O=0.3V, I_O=5mA
Output voltage	$V_{O(on)}$	-	0.1	0.3	V	I_O/I_I=5mA/0.25mA
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=10mA
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

CHARACTERISTIC CURVES

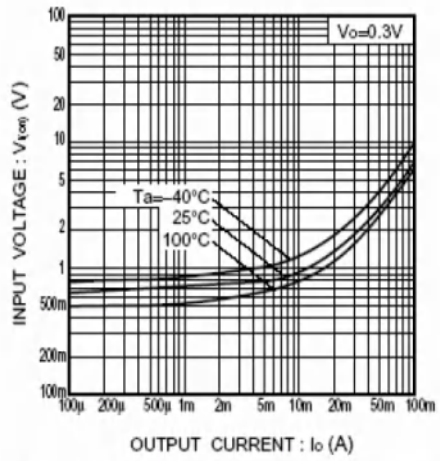


Fig.1 Input voltage vs. output current (ON characteristics)

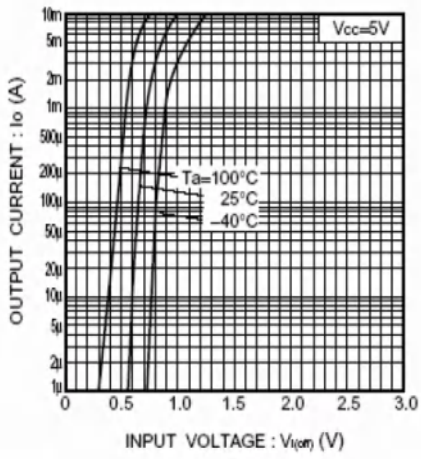


Fig.2 Output current vs. input voltage (OFF characteristics)

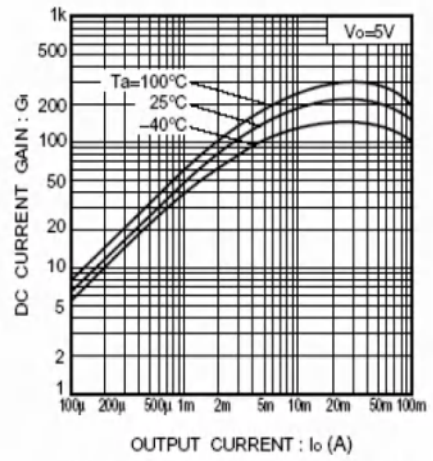


Fig.3 DC current gain vs. output current

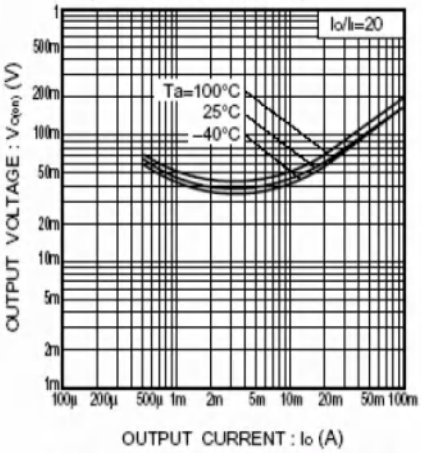


Fig.4 Output voltage vs. output current

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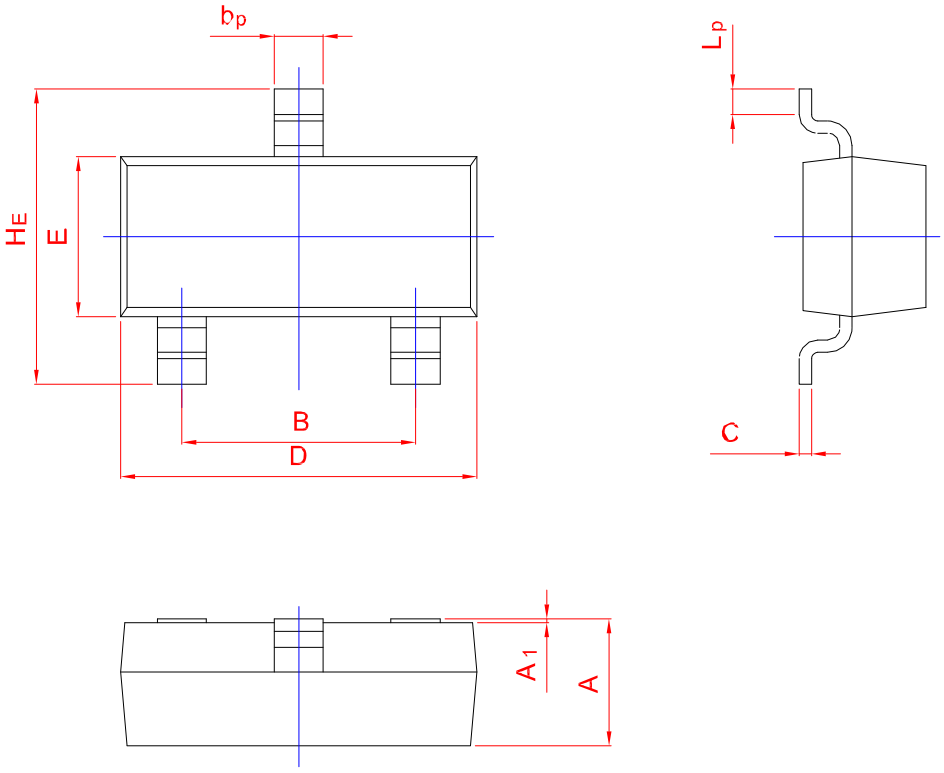
PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-23**



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20