迈拓电子
MAITUO ELECTRONIC

DTA114EM Series Digital Transistor (Built-In Resistors)

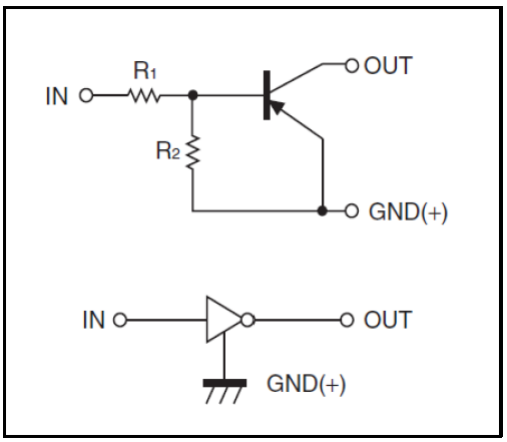
Digital transistor (PNP)

FEATURES

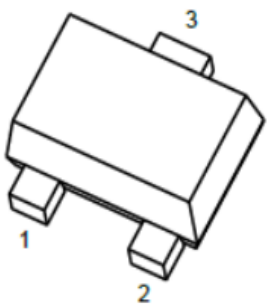
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit)
- The bias resistors consist of thin-film resistors with complete isolation to allow positive biasing of the input. They also have the advantage of almost completely eliminating parasitic effects.
- Only the on/off conditions need to be set for operation, making device design easier
- AEC-Q101 qualified

Marking : 14

PIN CONNECTIONS AND MARKING



DTA114EM



SOT-723

1. IN
2. GND
3. OUT

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MAXIMUM RATINGS (T_j = 25°C unless otherwise specified)

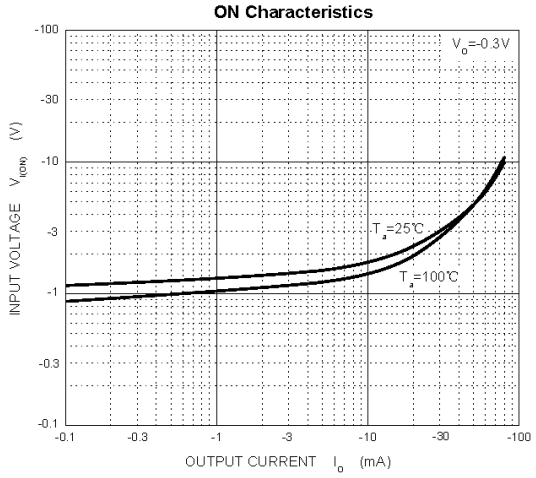
Parameter	Symbol	Value						Unit
		M	E	UA	CA	KA	SA	
Supply voltage	Vcc	-50						V
Input voltage	V_{IN}	-40 ~ 10						V
Output current	I_O 1)	-50						mA
Peak collector current	I_{CM} 1)	-100						mA
Maximum power dissipation	P_D 1)	100	150	200	200	200	300	mW
Operating junction and storage temperature range	T_j, T_{stg}	-55 ~ 150						°C

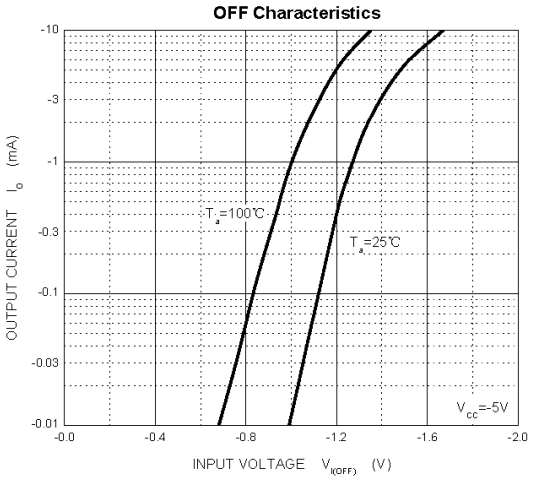
ELECTRICAL CHARACTERISTICS (T_j = 25°C unless otherwise specified)

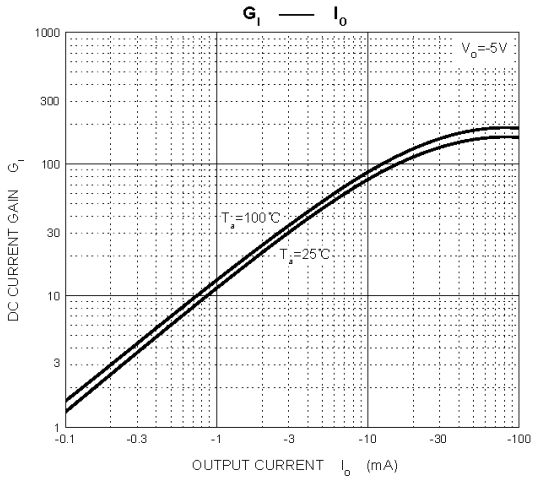
Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Input voltage	$V_{I(off)}$	V_{CC} = -5V, I_O = -100μA	-0.5	-	-	V
	$V_{I(on)}$	V_O = -0.3V, I_O = -10mA	-	-	-3	
Output voltage	$V_{O(on)}$	I_O/I_I = -10mA/-0.5mA	-	-	-0.3	V
Input current	I_I	V_I = -5V	-	-	-0.88	mA
Output current	$I_{O(off)}$	V_{CC} = -50V, V_I = 0V	-	-	-0.5	μA
DC current gain	G_I	V_O = -5V, I_O = -5mA	30	-	-	-
Input resistance	R_1		7	10	13	kΩ
Resistance ratio	R_2/R_1		0.8	1	1.2	
Transition frequency	f_T	V_O = -10V, I_O = -5mA, f = 100MHz	-	250	-	MHz

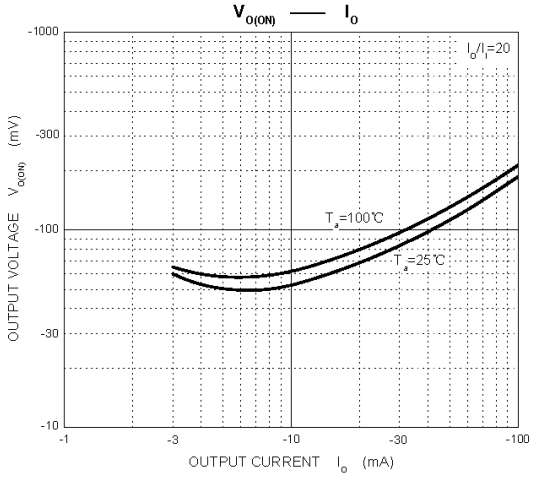
1) Maximum allowed temperature T_j = 25°C.

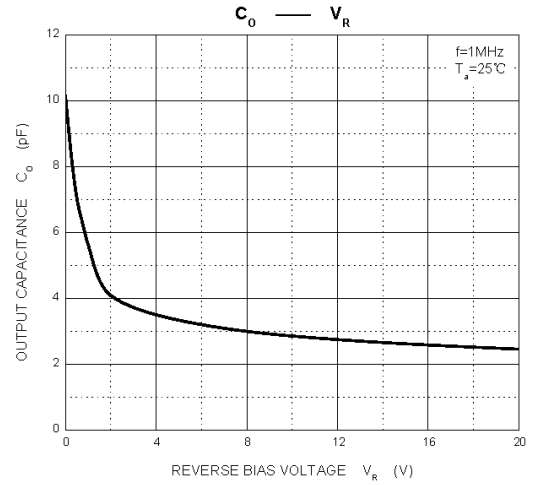
TYPICAL CHARACTERISTICS

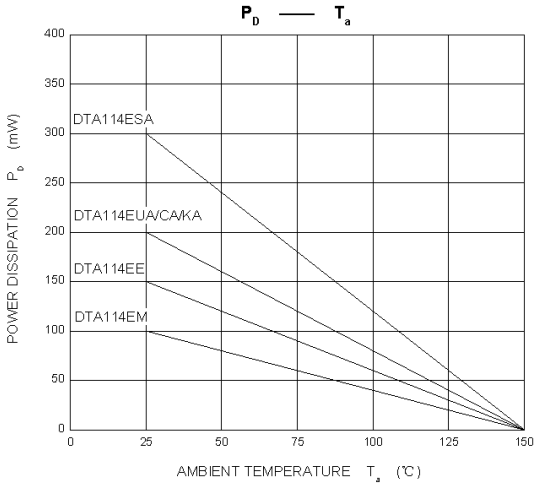












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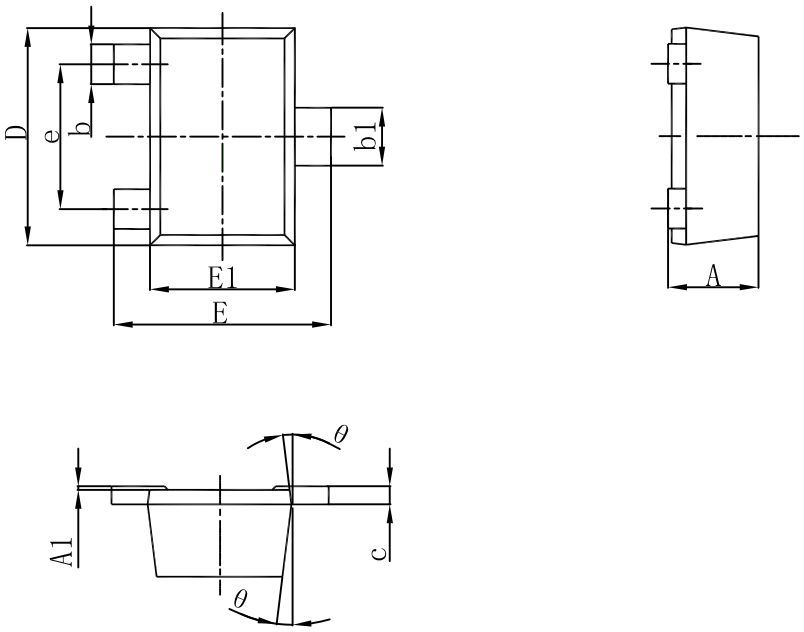
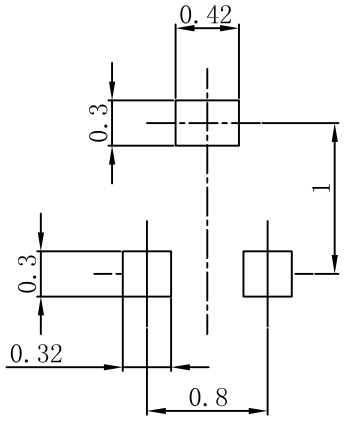
SOT-723 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.018	0.022
A1	0.000	0.050	0.000	0.002
b	0.170	0.270	0.007	0.011
b1	0.270	0.370	0.011	0.015
c	0.080	0.150	0.003	0.006
D	1.150	1.250	0.045	0.049
E	1.150	1.250	0.045	0.049
E1	0.750	0.850	0.030	0.033
e	0.800TYP.		0.031TYP.	
θ	7° REF.		7° REF.	

SOT-723 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.