

# DTC143XKA

Rev.1 Jun.-2025

## / Descriptions

SOT-23

NPN

Silicon NPN Digital transistor in a SOT-23 Plastic Package.

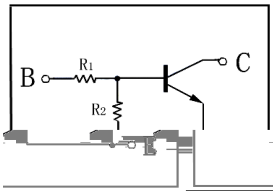
## / Features

With built-in bias resistors, simplify circuit design, reduce a quantity of parts and manufacturing process, HF Product.

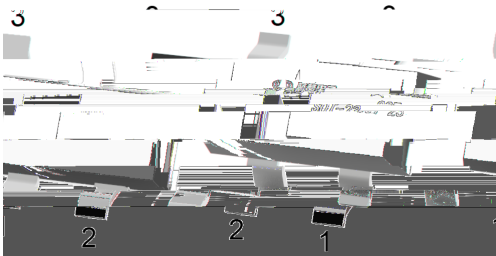
## / Applications

Switching, inverter circuit, interface circuit and driver circuit applications.

## / Equivalent Circuit



## / Pinning



PIN 1 Base      PIN 2 Emitter      PIN 3 Collector

## / hFE Classifications & Marking

Marking	H43
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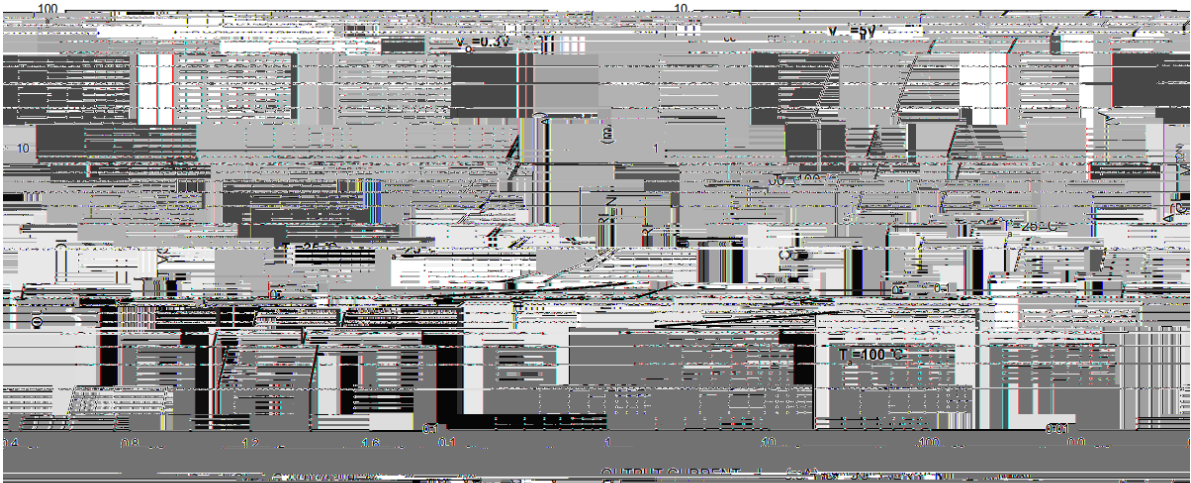
**/ Absolute Maximum Ratings(Ta=25 )**

Parameter	Symbol	Rating	Unit
Output Voltage	V <sub>CC</sub>	50	V
Input Voltage	V <sub>In</sub>	20	V
		-7.0	V
Output Current	I <sub>o</sub>	100	mA
Power Dissipation	P <sub>C</sub>	200	mW
Junction Temperature	T <sub>j</sub>	150	
Storage Temperature Range	T <sub>stg</sub>	-55 150	

**/ Electrical Characteristics(Ta=25 )**

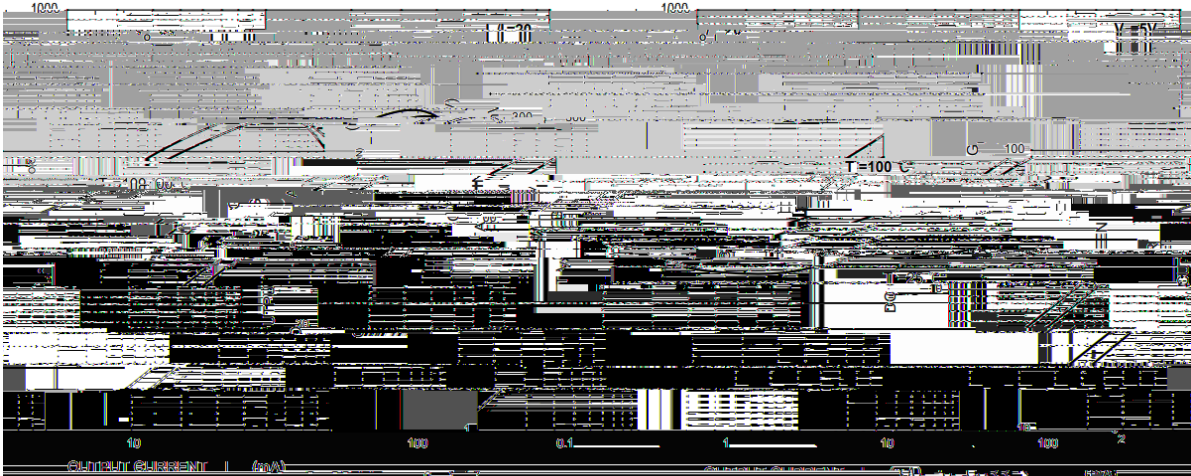
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Voltage	V <sub>I(off)</sub>	V <sub>CC</sub> =5.0V I <sub>o</sub> =100μA	0.3			V
	V <sub>I(on)</sub>	V <sub>O</sub> =0.3V I <sub>o</sub> =20mA			2.5	V
Output Voltage	V <sub>O(on)</sub>	I <sub>o</sub> =10mA I <sub>I</sub> =0.5mA		0.1	0.3	V
Input Current	I <sub>I</sub>	V <sub>I</sub> =5.0V			1.8	mA
Output Cut-off Current	I <sub>O(off)</sub>	V <sub>CC</sub> =50V V <sub>I</sub> =0V			0.5	μA
DC Current Gain	G <sub>I</sub>	V <sub>O</sub> =5.0V I <sub>o</sub> =10mA	30			
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =10V I <sub>C</sub> =5.0mA f=100MHz		250		MHz
Resistance1	R <sub>1</sub>		3.29	4.7	6.11	K
Resistance Ratio	R <sub>2</sub> /R <sub>1</sub>		1.7	2.1	2.6	

/ Electrical Characteristic Curve



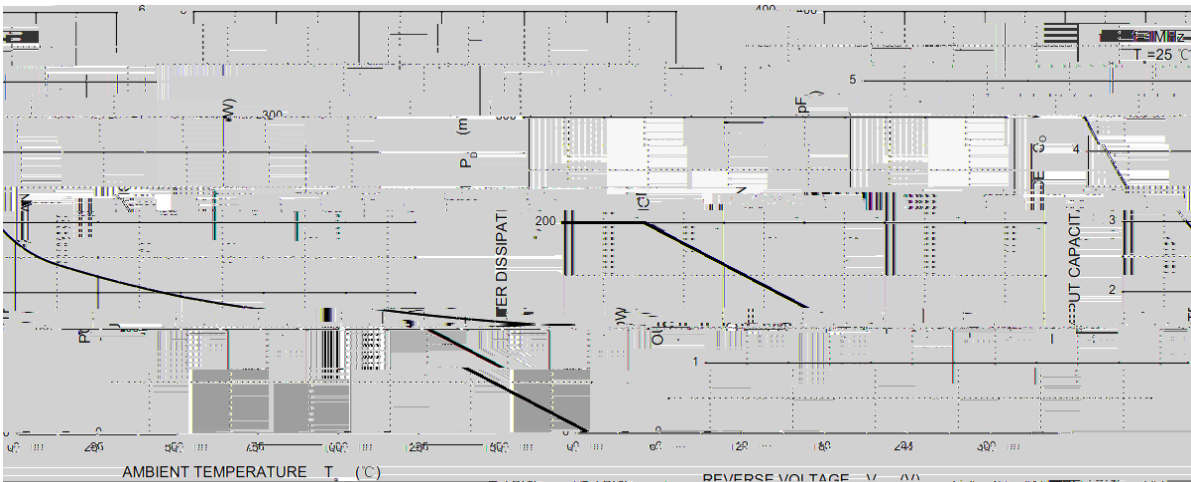
Figuer 2: OFF Characteristics

Figuer 1: ON Characteristics



Figuer 3:  $V_{D(s)}$  —  $I_D$

Figuer 4:  $G_f$  —  $I_D$



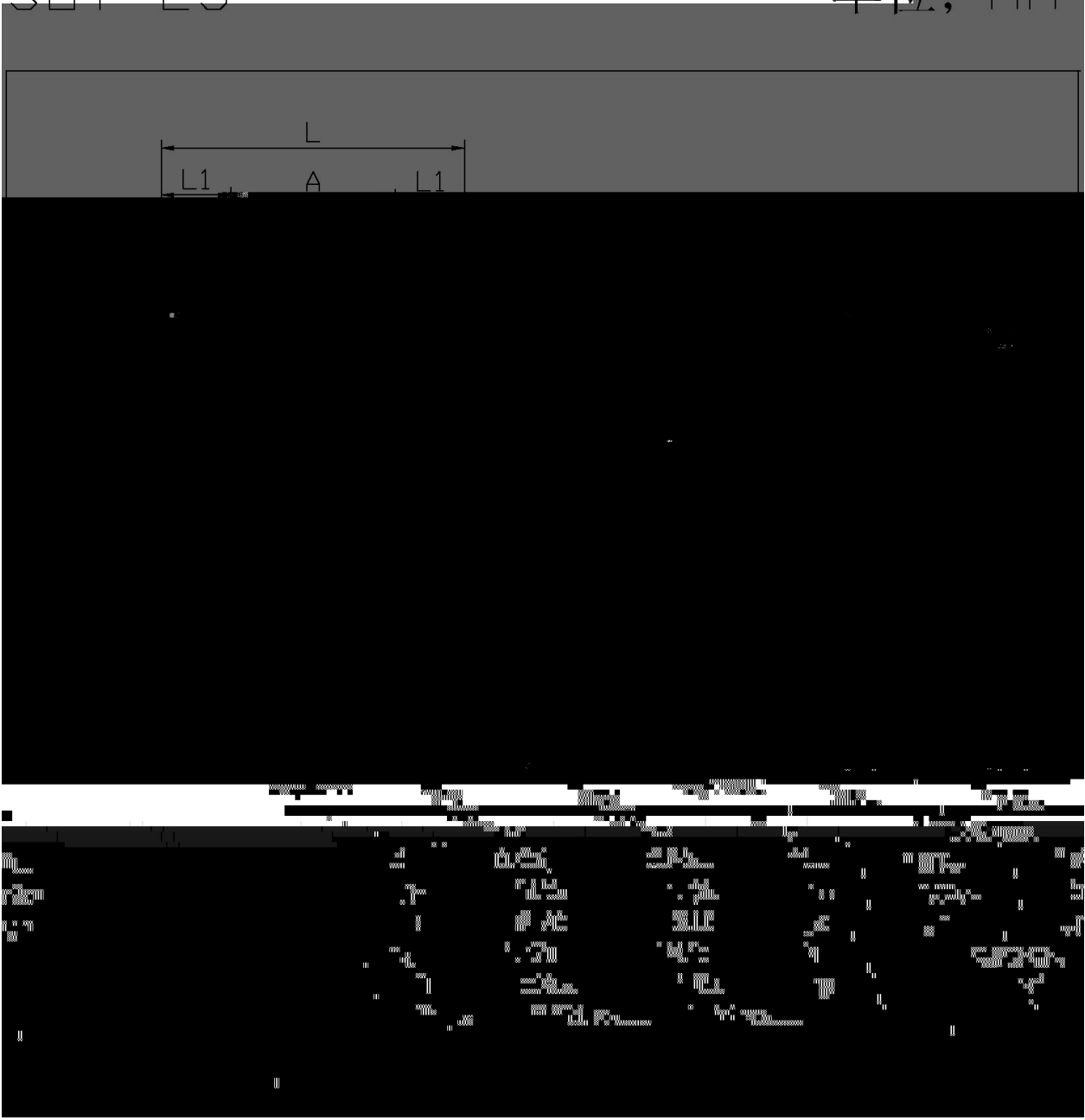
Figuer 6:  $P_D$  —  $T_a$

Figuer 5:  $C_o$  —  $V_R$

/ Package Dimensions

SOT-23

单位: mm



, M y f / Marking Instructions

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Note:

. y Company Code

43 y Product Type Code

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