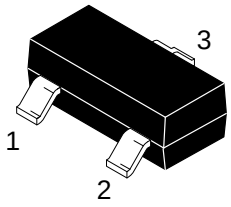
Descriptions

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.



SOT-23 (Top View)

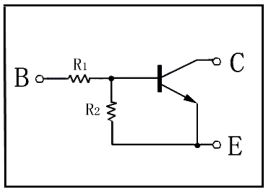
PIN 1：Base

PIN 2 : Emitter

PIN 3：Collector

Applications

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



Equivalent Circuit

Absolute Maximum Ratings(Ta=25℃)

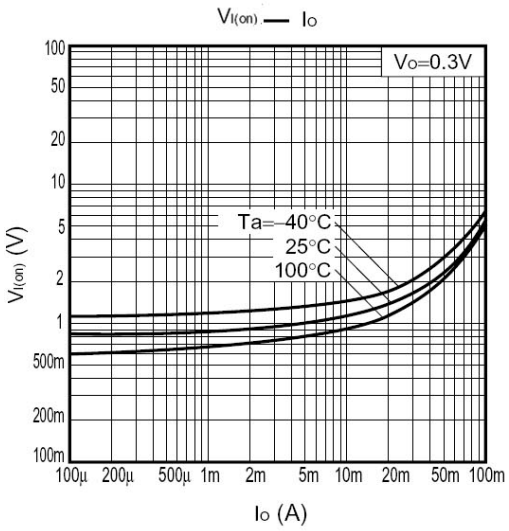
参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Output Voltage	V_{CC}	50	V
Input Voltage	V_I	20	V
		-7.0	V
Output Current	I_O	100	mA
	$I_{C(MAX)}$	100	mA
Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

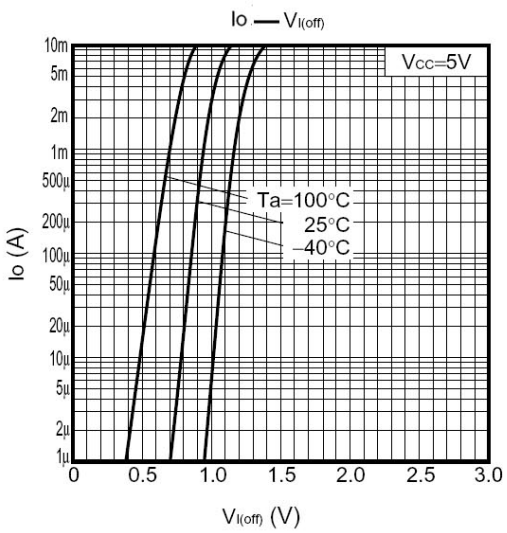
Model	Marking	Package	shipping
DTC143XKAC	**H43**	**SOT-23**	**3000/Tape&Reel**

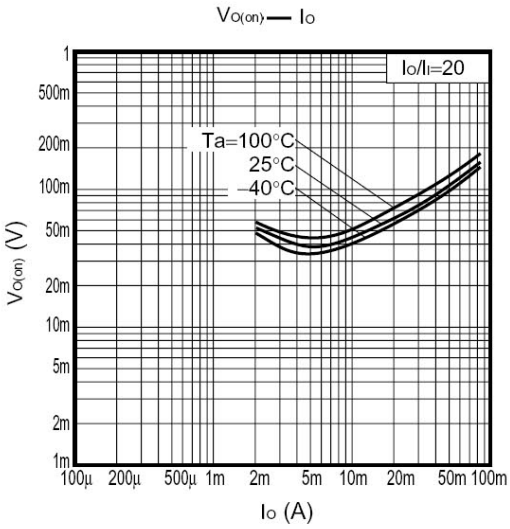
Electrical Characteristics(Ta=25℃)

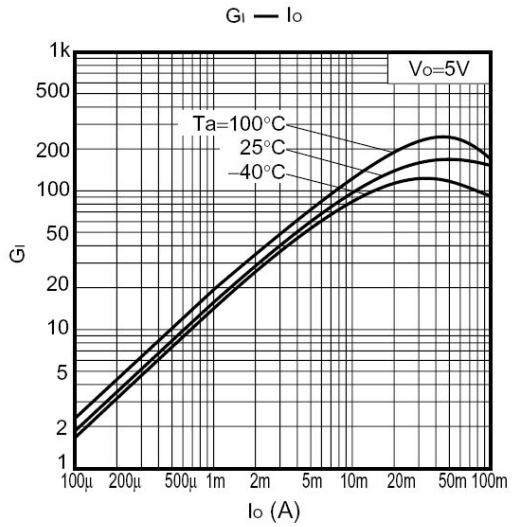
参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Input Voltage(OFF)	$V_{I(off)}$	V_{CC}=5.0V I_O=100μA			0.3	V
Input Voltage(ON)	$V_{I(on)}$	V_O=0.3V I_O=20mA	2.5			V
Output Voltage	$V_{O(on)}$	I_O=10mA I_I=0.5mA		0.1	0.3	V
Input Voltage	I_I	V_I=5.0V			1.8	mA
Output Cut-off Current	$I_{O(off)}$	V_{CC}=50V V_I=0V			0.5	μA
DC Current Gain	G_I	V_O=5.0V I_O=10mA	30			
Transition Frequency	f_T	V_{CE}=10V I_C=5.0mA f=100MHz		250		MHz
Resistance1	R_1		3.29	4.7	6.11	KΩ
Resistance Ratio	R_2/R_1		1.7	2.1	2.6	

Electrical Characteristic Curve



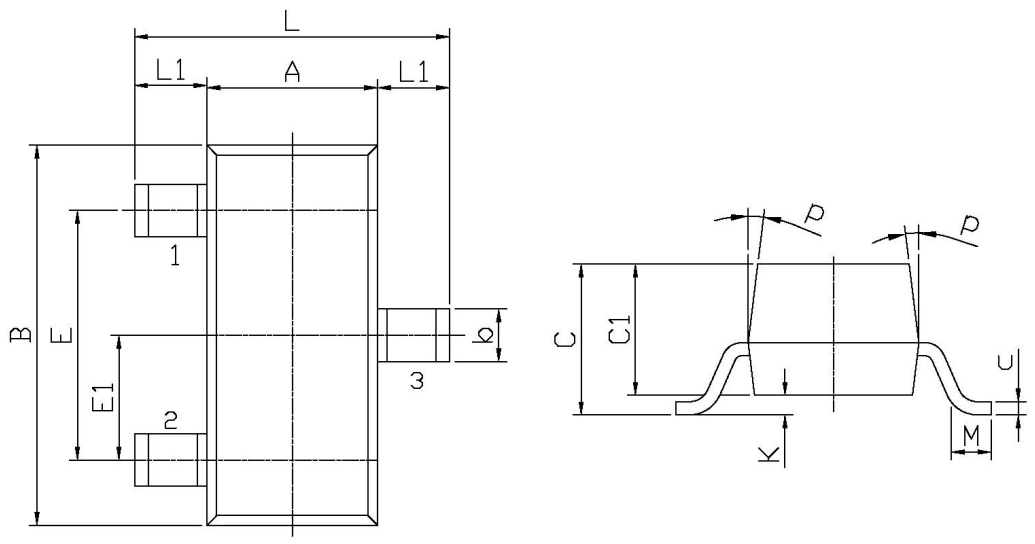






Package Dimensions

SOT-23 单位：mm



Symbol	Dimensions In Millmeters		Symbol	Dimensions In Millmeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			

Suggested Pad Layout

