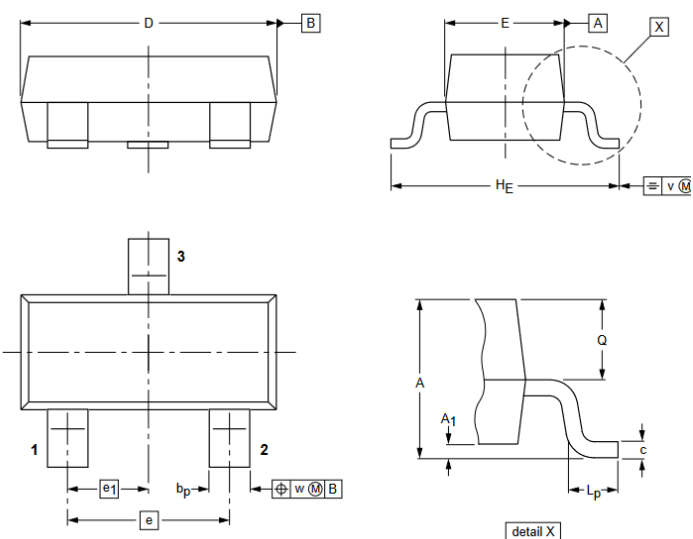


NPN Digital Transistors

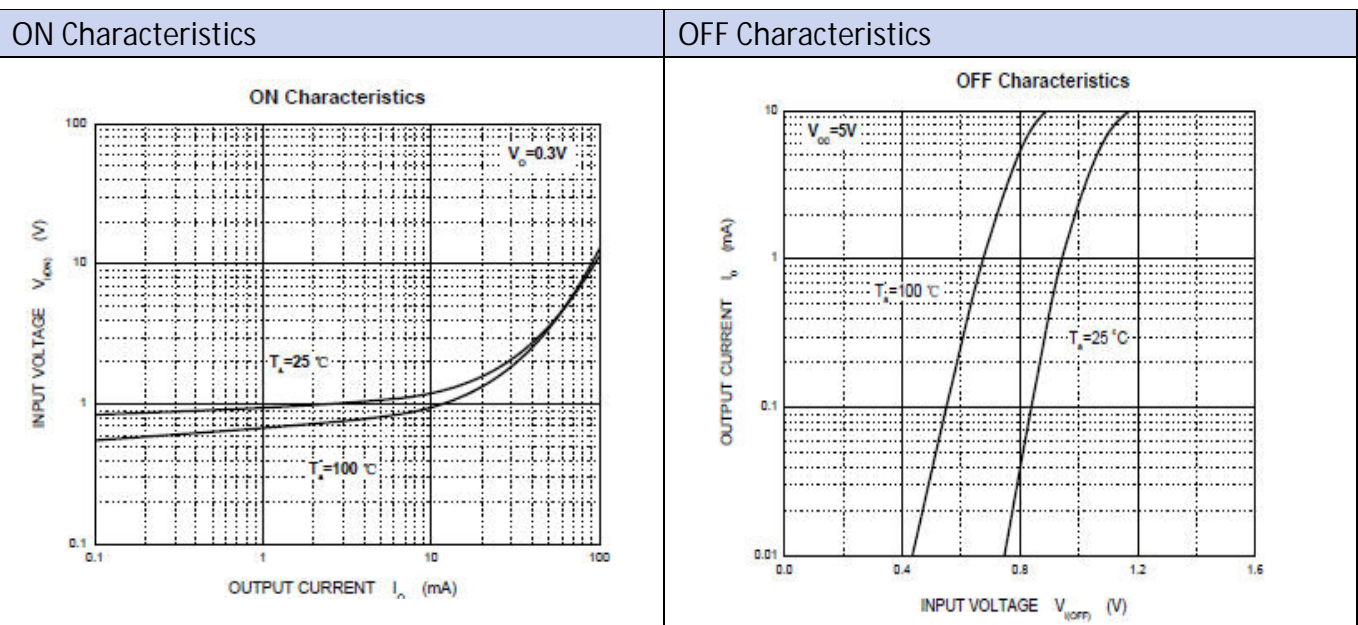
Primary characteristics			
Symbol	Parameter	Value	Unit
V_{CC}	Supply Voltage	50	V
V_{IN}	Input Voltage	-7~+20	V
I_O	Output current	5	V
P_D	Power dissipation	200	mW

Features

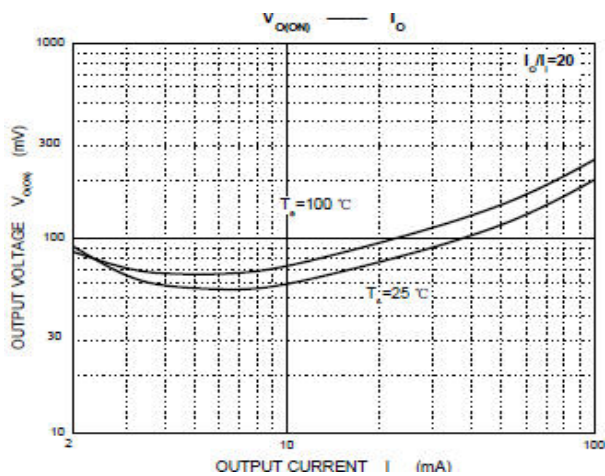
- **SOT-23** case for easy automatic insertion.
- Pb-free and **RoHS** compliant
- Only the on/off conditions need to be set for operation, making device design easy

Case dimensions													
													
1 – Base; 2 – Emitter; 3 – Collector													
SOT-23 (TO-236AB)													
Unit	A	A ₁ max	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.0 ±0.1	0.1	0.43 ±0.05	0.12 ±0.03	2.9 ±0.1	1.3 ±0.1	1.9	0.95	2.3 ±0.2	0.3 ±0.15	0.5 ±0.05	0.2	0.1

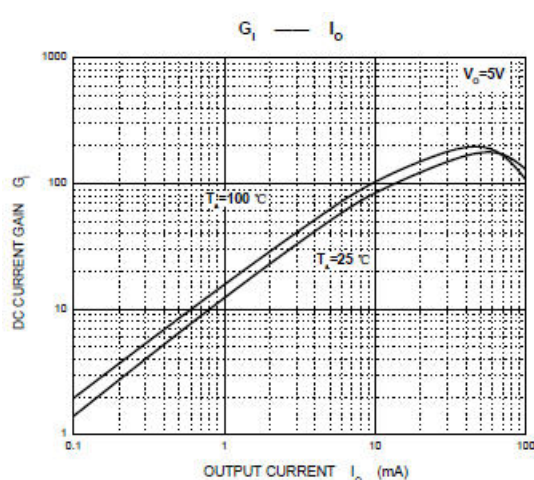
Electrical characteristics and maximum ratings ($T_a = 25^\circ\text{C}$)					
Parameter	Symbol	Test conditions	Value		Unit
			Min	Max	
Input voltage	$V_{I(off)}$	$V_{CC} = 5\text{V}, I_{O_1} = 100\mu\text{A}$	0.3		V
	$V_{I(on)}$	$V_O = 0.3\text{V}, I_O = 20\text{mA}$		2.5	V
Output voltage	$V_{O(on)}$	$I_E = I_O/I_1 = 10\text{mA}/0.5\text{mA}$	0.1	0.3	V
Input current	I_I	$V_I = 5\text{V}$		1.8	mA
Output current	$I_{O(off)}$	$V_{CC} = 50\text{V}, V_C = 0$		0.5	μA
DC Current gain	G_I	$V_O = 5\text{V}, I_O = 10\text{mA}$	30		
Input resistance	R_I		3.29	6.11	k Ω
Resistance ratio	R_2/R_1		1.7	2.6	
Transition frequency	f_T	$V_O = 10\text{V}, I_O = 5\text{mA}, f = 100\text{M}$	250		MHz



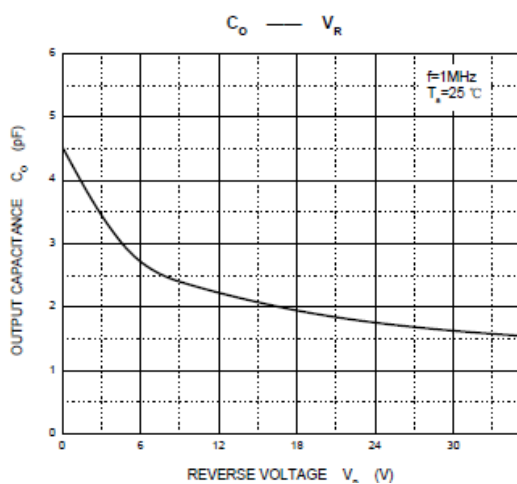
$V_{O(ON)} - I_o$



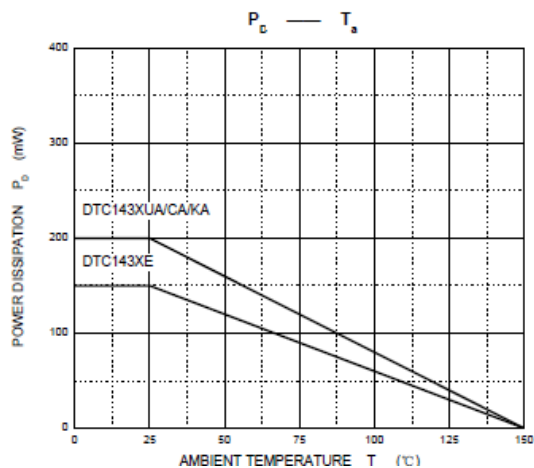
$G_I - I_o$



$C_o - V_R$



$P_D - T_a$



Ordering information			
Part Number	Package	Shipping Quantity	Dimensions
DTC143XCA	SOT-23 (TO-236AB)	3000 pcs / reel	---

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