

Descriptions

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

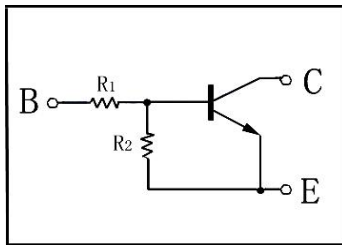
Features

- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process

Applications

- Switching
- Inverter circuit
- Interface circuit and driver circuit applications

Equivalent Circuit & Pinning



PIN 1: Base

PIN 2: Emitter

PIN 3: Collector

Marking

Marking	HE23
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Absolute Maximum Ratings(Ta=25°C)

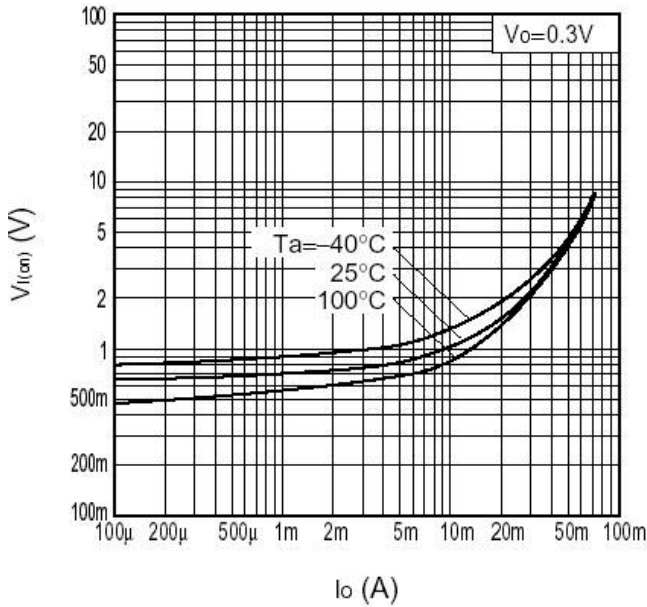
Parameter	Symbol	Rating	Unit
Output Voltage	V_{CC}	50	V
Input Voltage	V_{IN}	30	V
		-5.0	V
Output Current	I_O	100	mA
	I_C	100	mA
Power Dissipation	P_C	200	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

Electrical Characteristics(Ta=25°C)

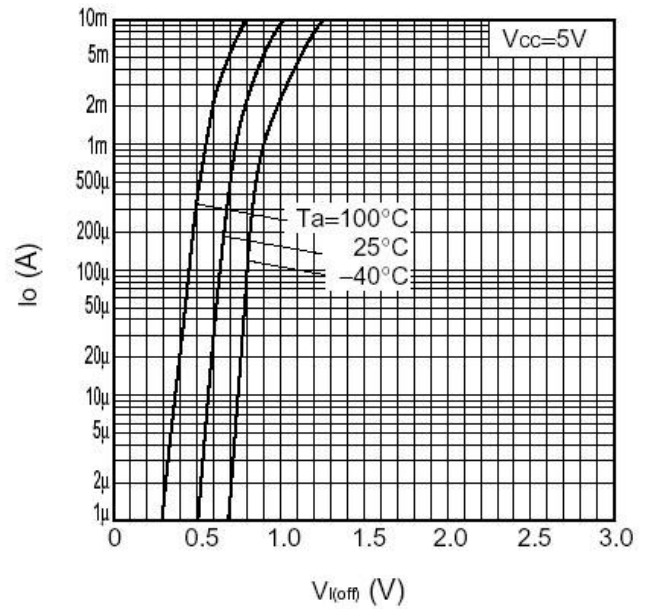
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Voltage(OFF)	$V_{I(off)}$	$V_{CC}=5.0V$ $I_O=100\mu A$			0.5	V
Input Voltage(ON)	$V_{I(on)}$	$V_O=0.3V$ $I_O=5.0mA$	1.3			V
Output Voltage	$V_{O(on)}$	$I_O=5.0mA$ $I_I=0.25mA$		0.1	0.3	V
Input Current	I_I	$V_I=5.0V$			1.8	mA
Output Cut-off Current	$I_{O(off)}$	$V_{CC}=50V$ $V_I=0V$			0.5	μA
DC Current Gain	G_I	$V_O=5.0V$ $I_O=10mA$	80			
Transition Frequency	f_T	$V_{CE}=10V$ $f=100MHz$ $I_E=-5.0mA$		250		MHz
Resistance1	R_1		3.29	4.7	6.11	K Ω
Resistance Ratio	R_2/R_1		8.0	10	12	

Electrical Characteristic Curve

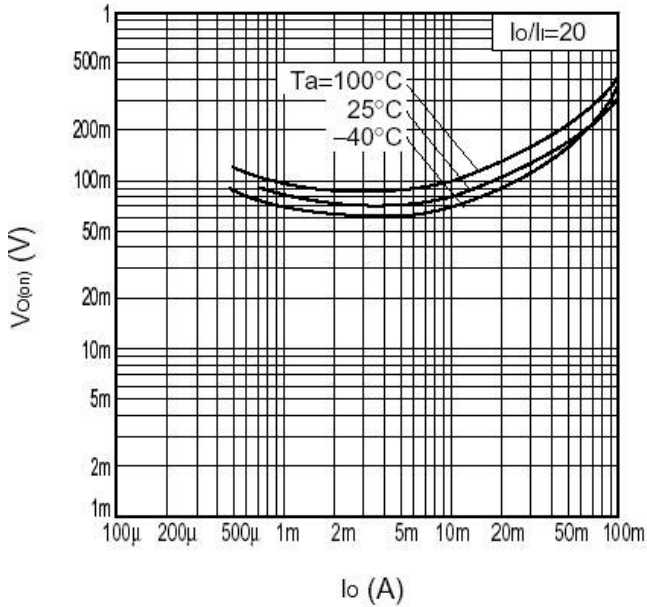
$V_{I(on)} - I_o$



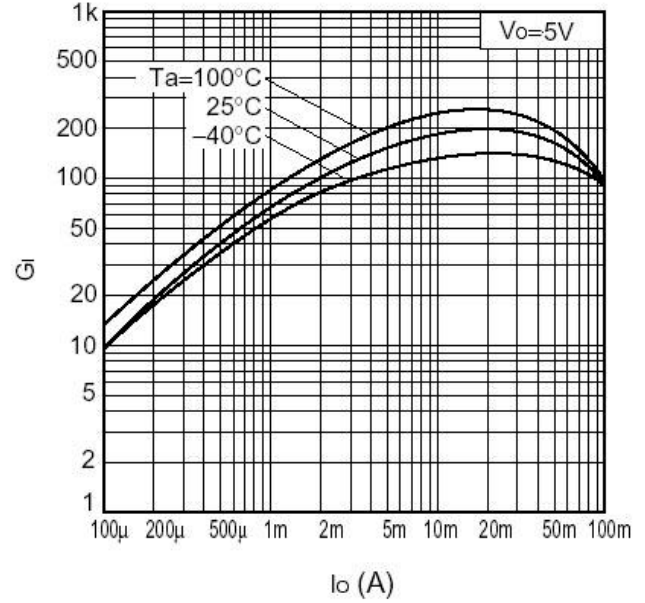
$I_o - V_{I(off)}$



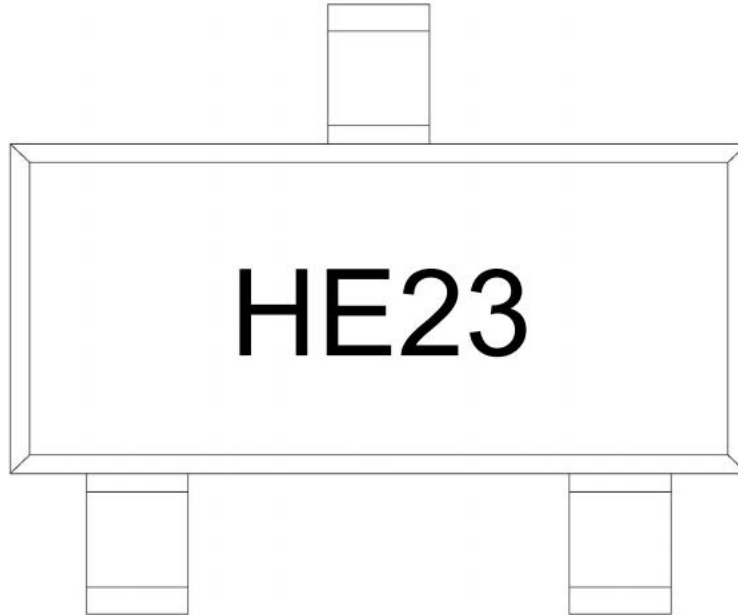
$V_{O(on)} - I_o$



$G_i - I_o$



Marking Instructions



Note:

H: Company Code

E23: Product Type Code

Packaging SPEC

REEL

Package Type	Units					Dimension (unit: mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-23	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

Package Outline Dimensions

SOT-23

单位: mm

