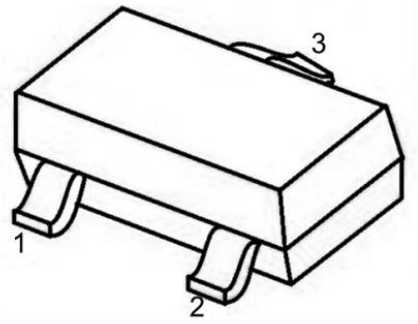
DTC114YE

Digital Transistor

DTC114YE Digital Transistor(NPN)

SOT-523

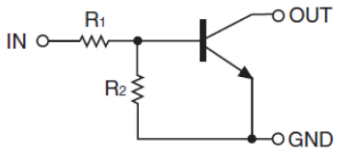


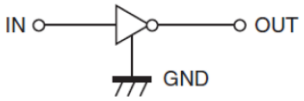
1.IN 2.GND 3.OUT

Feature

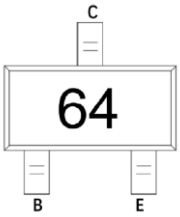
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors
- The bias resistors consist of thin-film resistors with complete isolation to allow positive biasing of the input .They also have the advantage of almost completely eliminating parasitic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

Schematic diagram





Marking:



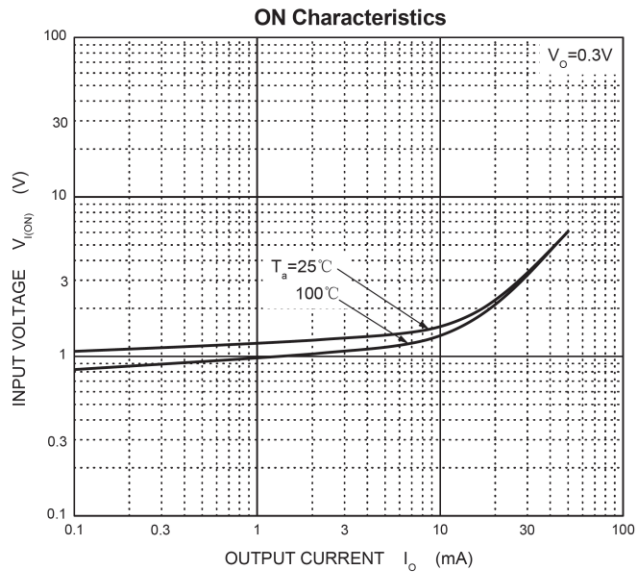
ABSOLUTE MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

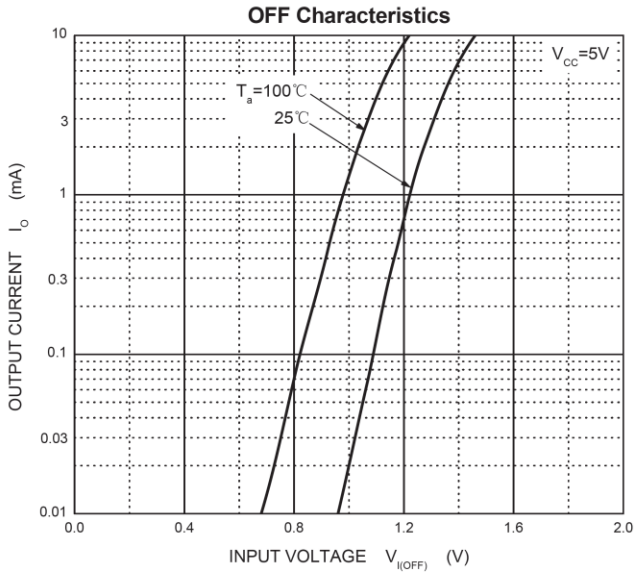
Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	50	V
Input Voltage	V_{IN}	-10~+40	V
Output Current	I_O	100	mA
Power Dissipation	P_D	150	mW
Junction Temperature	T_J	125	℃
Storage Temperature Range	T_{STG}	-45 ~ +125	℃

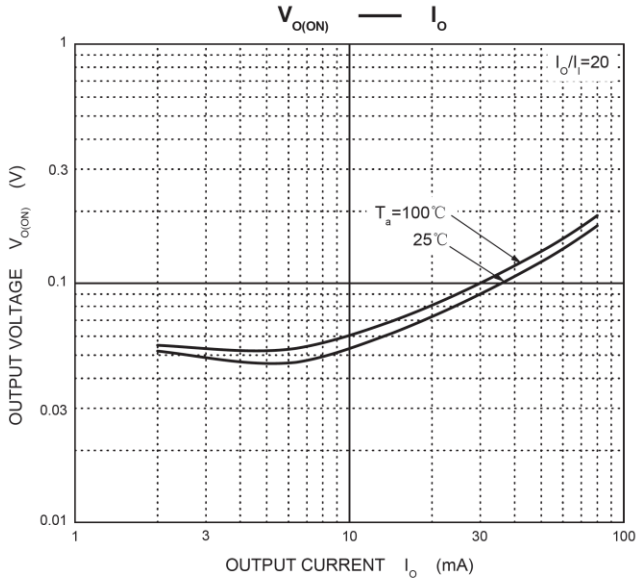
ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise noted)

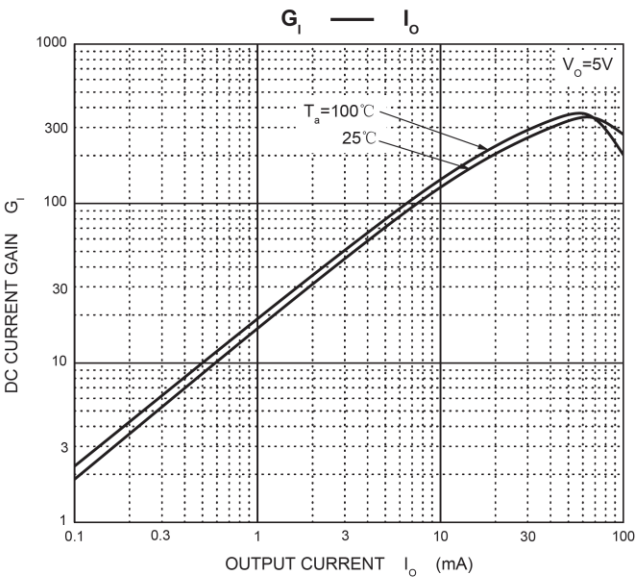
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Input Voltage	$V_{I(off)}$	V_{CC} = 5V , I_O = 100μA	0.5			V
	$V_{I(on)}$	V_O = 0.2V , I_O = 5mA			2	V
Output Voltage	$V_{O(on)}$	I_O = 10mA ,I_I = 0.5mA			0.3	V
Input Current	I_I	V_I = 5V			0.88	mA
Output Current	$I_{O(off)}$	V_{CC} = 50V , V_I = 0V			0.5	μA
DC Current Gain	G_I	V_O = 5V ,I_O = 5mA	68			
Input Resistance	R_1		7	10	13	kΩ
Resistance Ratio	R_2/ R_1		3.7	4.7	5.7	
Transition Frequency	f_T	V_O = 10V, I_O = 5mA, f = 100MHz		250		MHz

Typical Characteristics

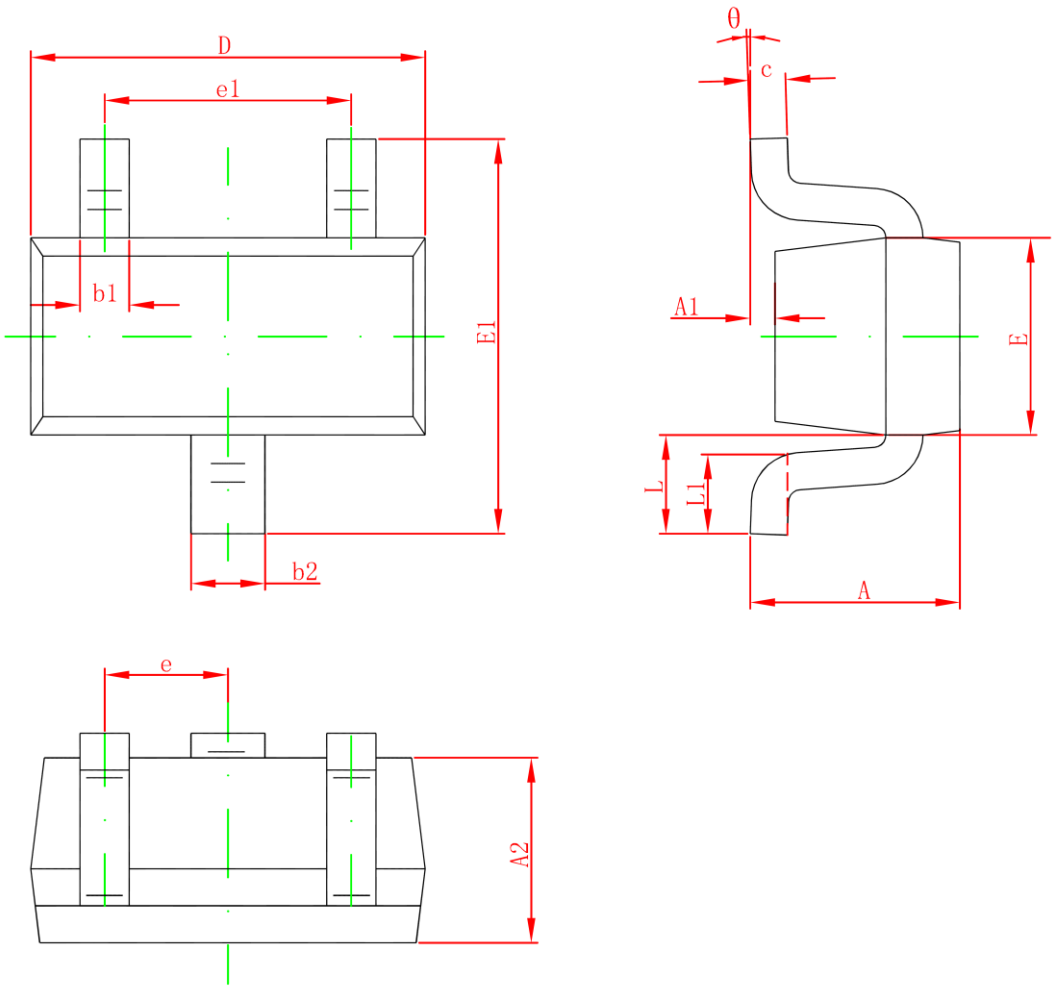








SOT-523 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e1	0.900	1.100	0.035	0.043
e	0.500TYP		0.020TYP	
L	0.400REF		0.016REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

Attention：

- GreenPower Electronics reserves the right to improve product design function and reliability without notice.
- Any and all semiconductor products have certain probability to fail or malfunction, which may result in personal injury, death or property damage. Customer are solely responsible for providing adequate safe measures when design their systems.
- GreenPower Electronics products belong to consumer electronics or other civilian electronic products.