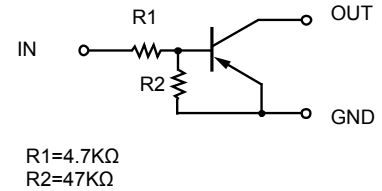


Feature

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
- The bias resistors consist of thin-film resistors with complete isolation to allow negative 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 the device design easy.


Applications

- Inverter
- Interface
- Driver

Mechanical Characteristics

- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:260℃
- Device meets MSL 1 requirements
- Pure tin plating: 7 ~ 17 um
- Pin flatness : ≤3mil

Structure

PNP epitaxial planar silicon transistor (Resistor built-in type)

Electrical characteristics per line@25℃ (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Input voltage	$V_{I(off)}$	$V_{CC}=-5V, I_O=-100\mu A$	-	-	-0.5	V
	$V_{I(on)}$	$V_O=-0.3V, I_O=-5mA$	-1.3	-	-	V
Output voltage	$V_{O(off)}$	$I_O/I_I=-5mA/-0.25mA$	-	-0.1	-0.3	V
Input current	I_I	$V_I=-5V$	-	-	-1.8	mA
Output current	$I_{O(off)}$	$V_{CC}=-50V, V_I=0V$	-	-	-0.5	μA
DC current gain	G_1	$V_O=-5V, I_O=-10mA$	80	-	-	-
Input resistance	R_1	-	3.29	4.7	6.11	KΩ
Resistance ration	R_2/R_1	-	8	10	12	-
Transition frequency	f_T	$V_{CE}=-10V, I_E=5mA, f=100MHz$	-	250	-	MHz

Absolute maximum rating@25°C

Rating	Symbol	Value	Units
Supply voltage	V_{CC}	-50	V
Input voltage	V_{IN}	-30 to +5	V
Output current	I_o	-100	mA
	$I_{C(MAX.)}$	-100	mA
Power dissipation	P_d	150	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Typical Characteristics

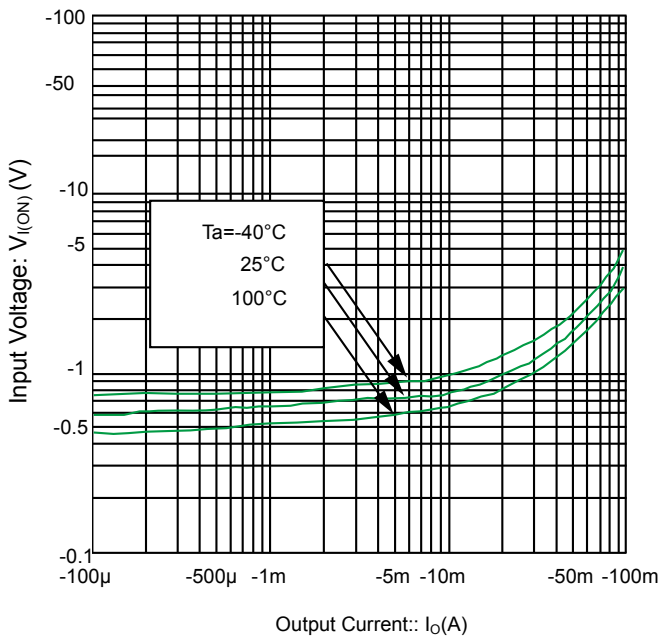


Fig 1. Input Voltage vs. output current
@ $V_C = -0.3V$ (ON characteristics)

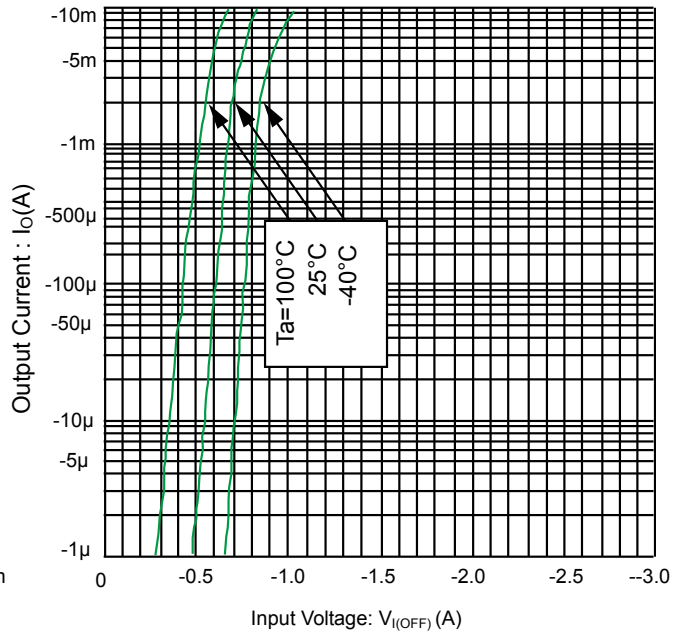
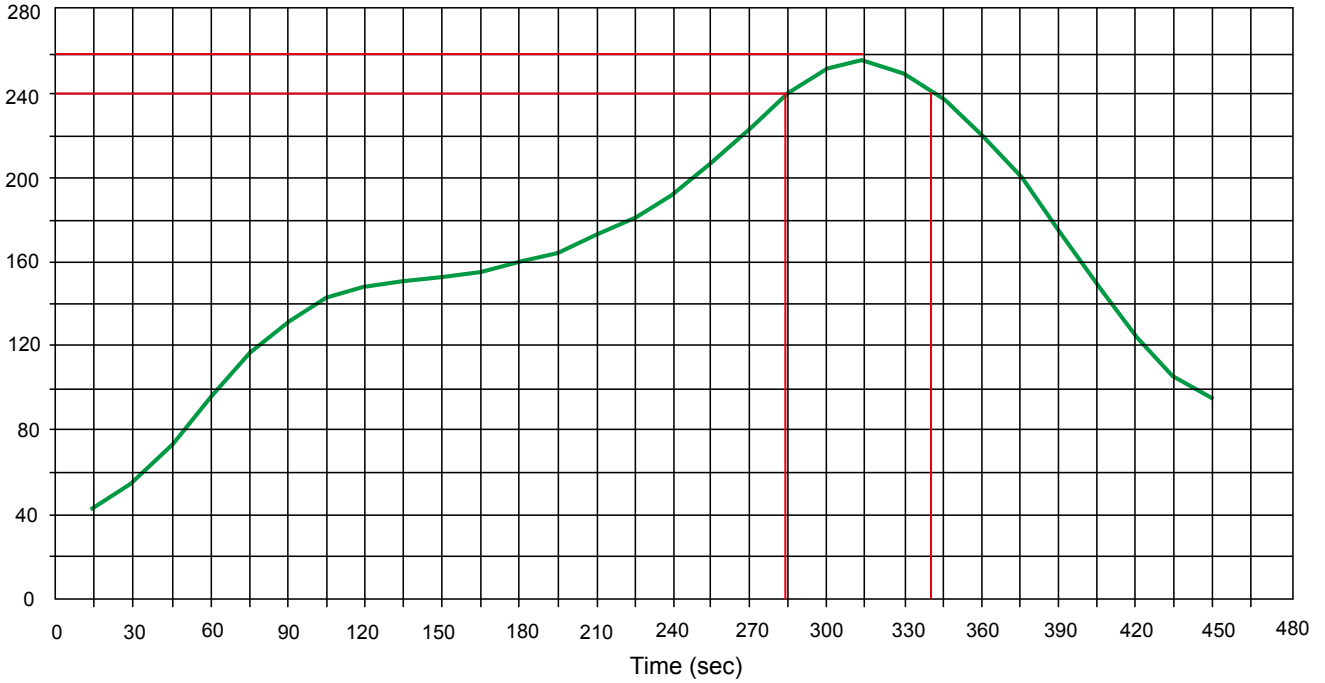


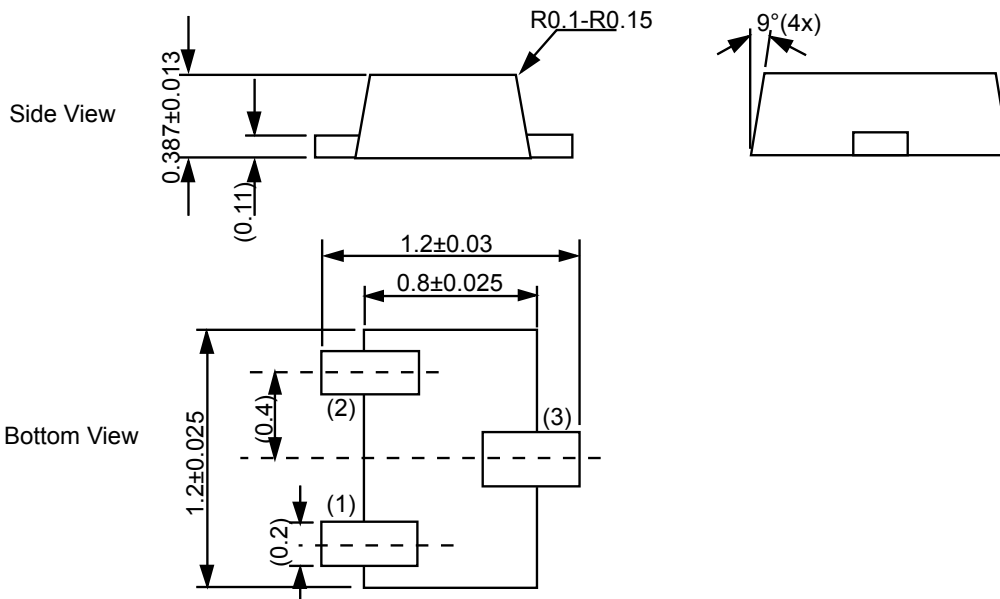
Fig 2. Output current vs. input voltage
@ $V_{CC} = -5V$ (OFF characteristics)

Solder Reflow Recommendation

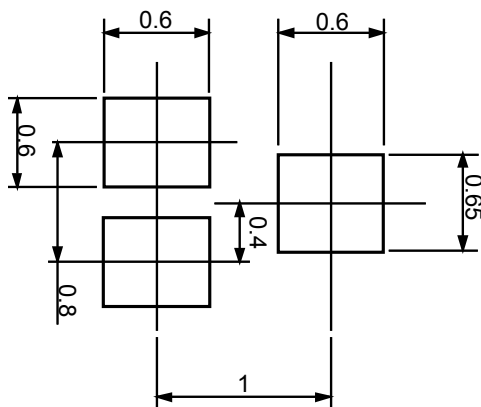
Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec



Product dimension (SOT-723)



Unit: mm




Unit: mm

Ordering information

Device	Package	Shipping
PDTA143ZM	SOT-723 (Pb-Free)	8000 / Tape & Reel


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