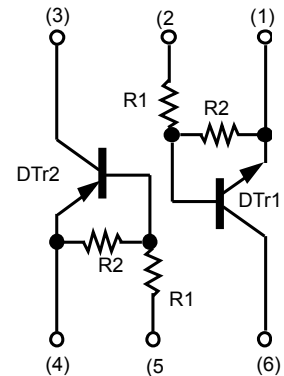


Feature

- Both the DTA143Z chip and DTC143Z chip in an SOT363 package.
- Transistor elements ate independent,eliminating interference..
- Mounting cost and area can be cut in half



Applications

- Inverter
- Interface
- Driver

Mechanical Characteristics

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

Structure

A NPN and NPN digital transistor (each with a single built in resistor)

Electrical characteristics per line@25°C(unless otherwise specified)

DTr1						
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	K Ω
Resistance ration	R_2/R_1	-	8	10	12	-
Transition frequency	f_T	$V_{CE}=10V, I_E=-5mA, f=100MHz$	-	250	-	MHz

DTr2						
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	K Ω
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

DTr1			
Rating	Symbol	Value	Units
Supply voltage	V_{CC}	50	V
Input voltage	V_{IN}	-5 to +30	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

DTr2			
Rating	Symbol	Value	Units
Supply voltage	V_{CC}	-50	V
Input voltage	V_{IN}	-5 to +30	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 (DTr1)

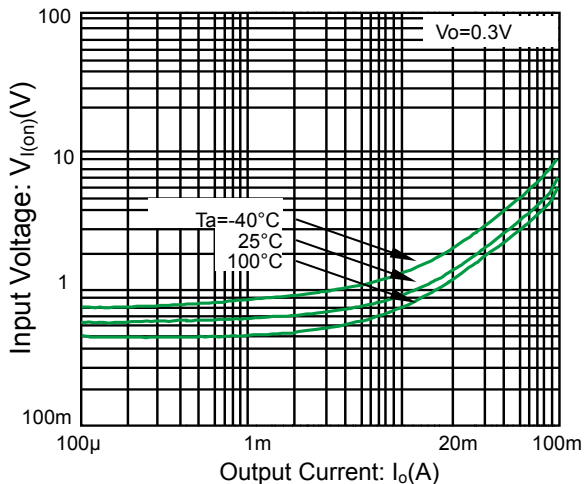


Fig. 1 Input Voltage vs. output current
(ON characteristics)

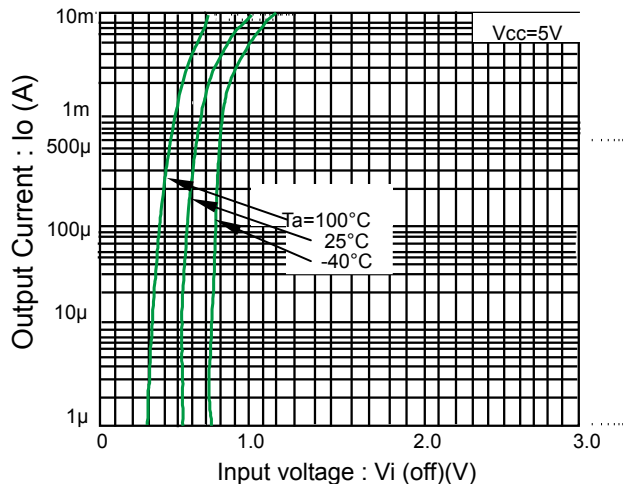


Fig.2 Output current vs. input voltage
(OFF characteristics)

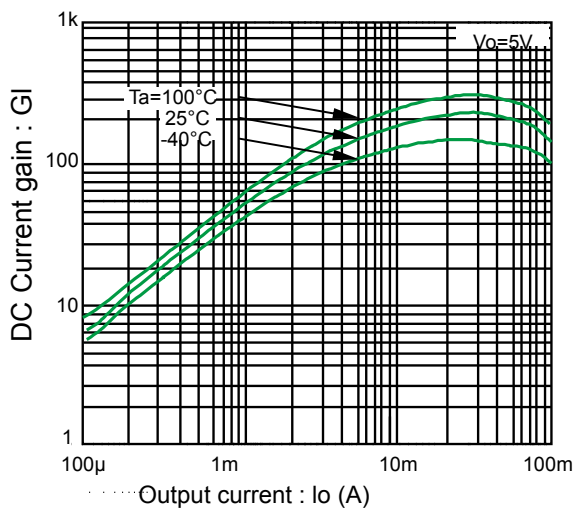


Fig.3 DC current gain vs. output current

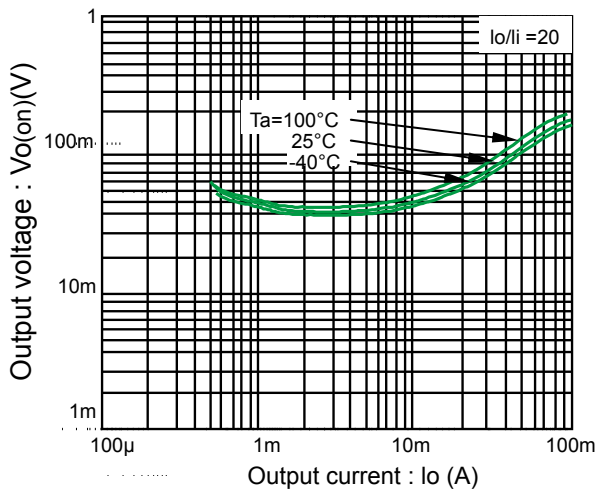


Fig.4 Output voltage vs. output current

Typical Characteristics (DTr2)

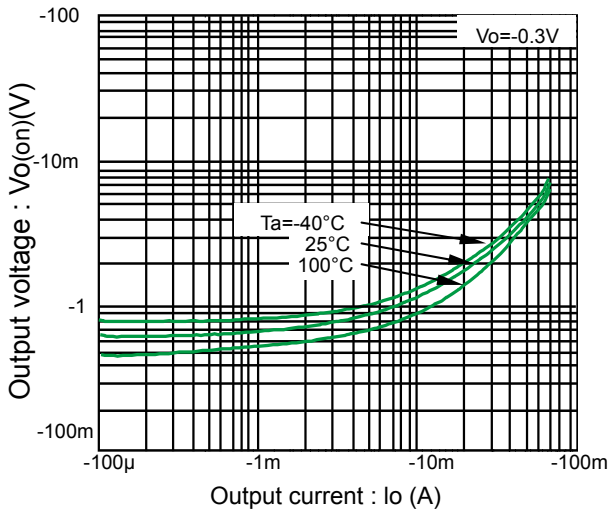


Fig.5 input voltage vs. output current (ON characteristics)

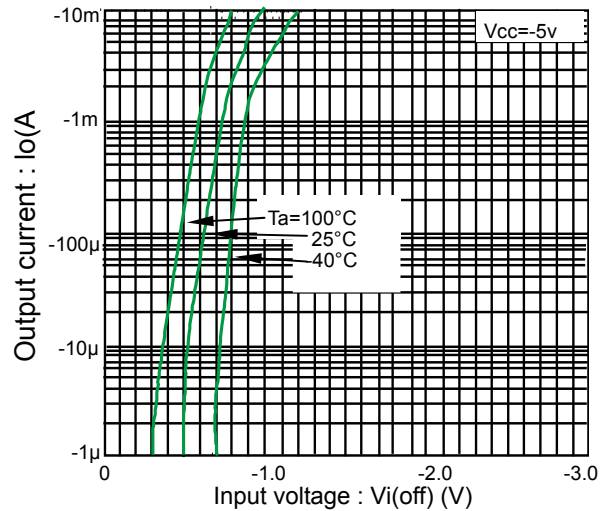


Fig.6 Output current vs. input voltage (OFF characteristics)

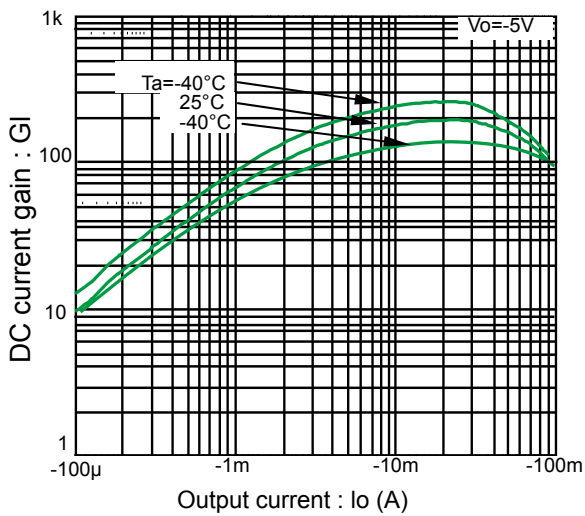


Fig.7 DC current gain vs. output current

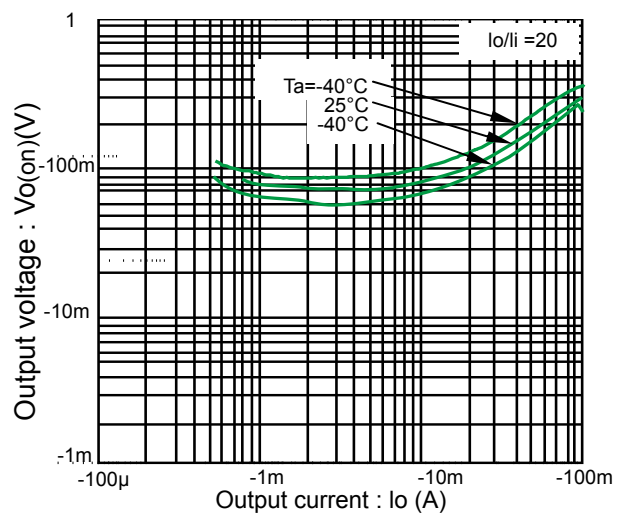
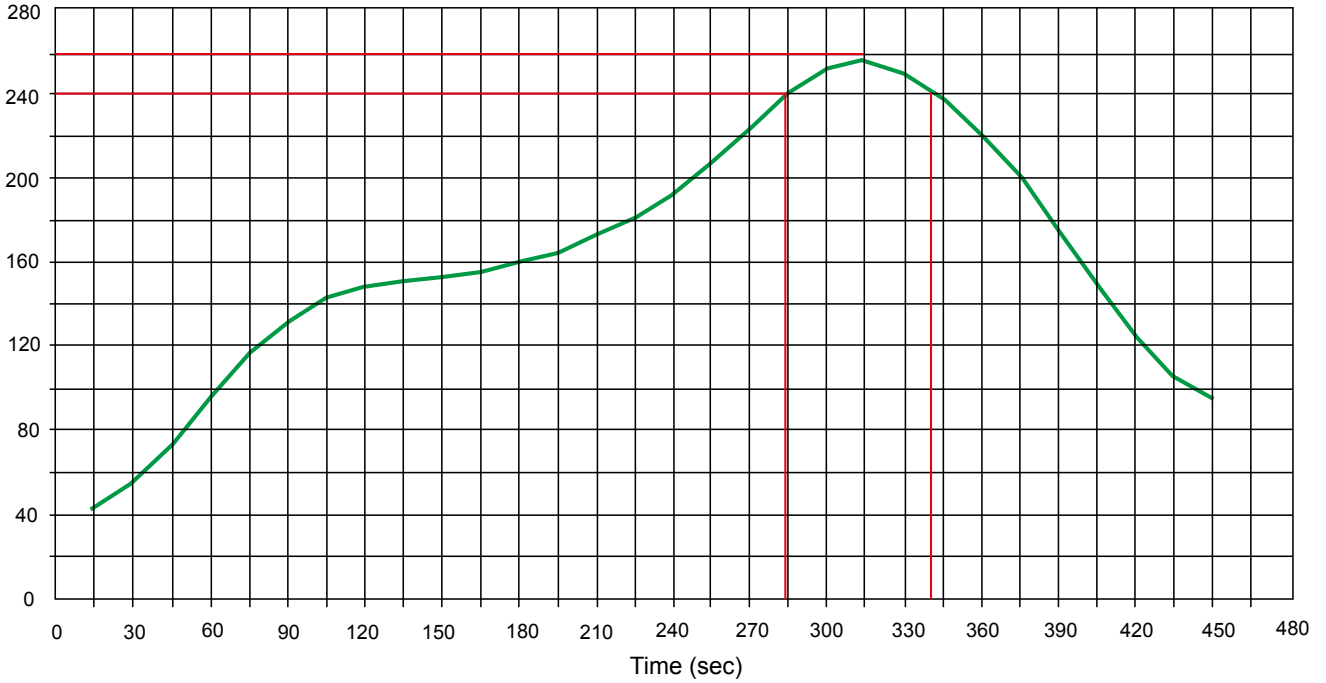


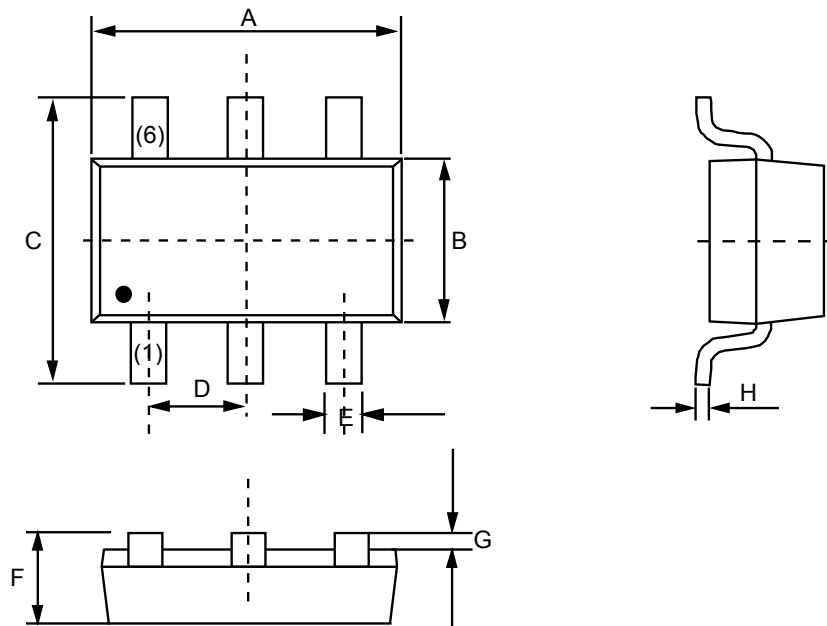
Fig.8 Output voltage vs. output current

Solder Reflow Recommendation

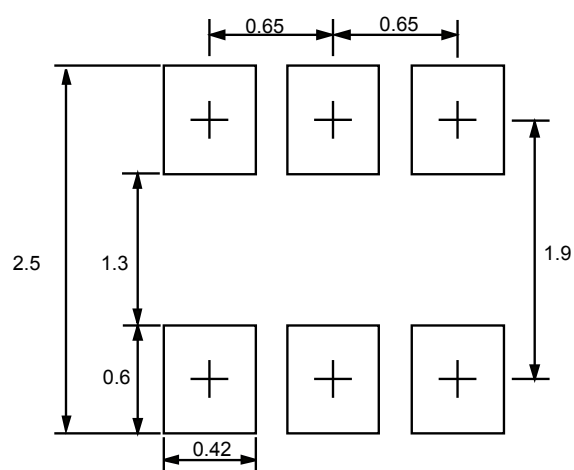
Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec



Product dimension (SOT-363)



Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	2.0	2.2	0.079	0.087
B	1.15	1.35	0.045	0.053
C	2.15	2.45	0.085	0.096
D	0.65BSC		0.026BSC	
E	0.15	0.35	0.006	0.014
F	0.90	1.10	0.035	0.043
G	0.00	0.10	0.000	0.004
H	0.08	0.15	0.003	0.006




Unit:mm

Ordering information

Device	Package	Shipping
PDT6UT143Z	SOT-363 (Pb-Free)	3000 / Tape & Reel


IMPORTANT NOTICE

 and **Prisemi**[®] are registered trademarks of **Prisemi Electronics Co., Ltd (Prisemi)** ,Prisemi reserves the right to make changes without further notice to any products herein. Prisemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Prisemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. “Typical” parameters which may be provided in Prisemi data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including “Typicals” must be validated for each customer application by customer’s technical experts. Prisemi does not convey any license under its patent rights nor the rights of others. The products listed in this document are designed to be used with ordinary electronic equipment or devices, Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

Website: <http://www.prisemi.com>

For additional information, please contact your local Sales Representative.

©Copyright 2009, Prisemi Electronics

 **Prisemi**[®] is a registered trademark of Prisemi Electronics.

All rights are reserved.