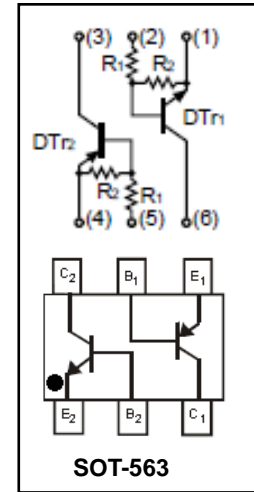


Features

- Both the DTA143Z chip and DTC143Z chip in SOT-563 Package
- Reduces board space
- Reduces component count
- Surface mount package suited for automated assembly

Mechanical Data

- Case: SOT-563
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
EMD22	SOT-563	3000pcs / Tape & Reel	D22

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Symbol	Parameter	Value		Unit
		Tr1	Tr2	
V _{CC}	Supply Voltage	50	-50	V
V _{IN}	Input Voltage	-5 to +30	-30 to +5	V
I _O	Output Current	100	-100	mA
I _C	Collector Current	100	-100	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation ^{*1}	P _D	150	mW
Operating Junction Temperature Range	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Note 1: 120mW per element must not be exceeded



Electrical Characteristics-TR1 (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Voltage	V _{I(off)}	V _{CC} = 5V, I _O = 100μA	0.5	-	-	V
	V _{I(on)}	V _O = 0.3V, I _O = 5mA	-	-	1.3	V
Output Voltage	V _{O(on)}	I _O = 5mA, I _I = 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 _I	V _O = 5V, I _O = 10mA	80	-	-	-
Input Resistor	R ₁		3.29	4.7	6.11	kΩ
Resistance Ratio	R ₂ /R ₁		8	10	12	
Gain-Bandwidth Product	f _T	V _{CE} = 10V, I _E = -5mA, f = 100MHz	-	250	-	MHz

Electrical Characteristics-TR2 (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Voltage	V _{I(off)}	V _{CC} = -5V, I _O = -100μA	-0.5	-	-	V
	V _{I(on)}	V _O = -0.3V, I _O = -5mA	-	-	-1.3	V
Output Voltage	V _{O(on)}	I _O = -5mA, I _I = -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	uA
DC Current Gain	G _I	V _O = -5V, I _O = -10mA	80	-	-	-
Input Resistor	R ₁		3.29	4.7	6.11	kΩ
Resistance Ratio	R ₂ /R ₁		8	10	12	
Gain-Bandwidth Product	f _T	V _{CE} = -10V, I _E = 5mA, f = 100MHz	-	250	-	MHz



Ratings and Characteristics Curves-TR1 (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

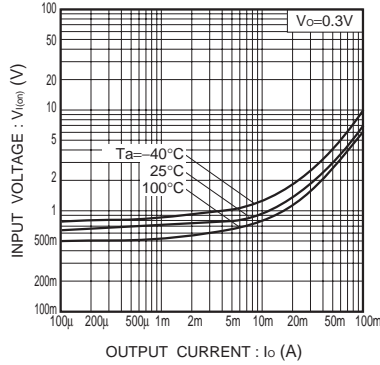


Fig.1 Input voltage vs. output current (ON characteristics)

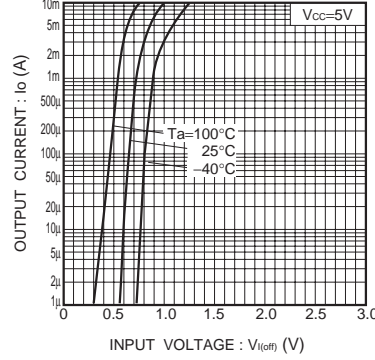


Fig.2 Output current vs. input voltage (OFF characteristics)

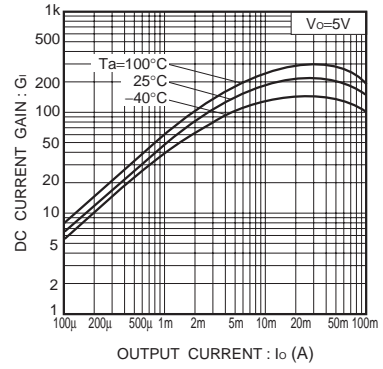


Fig.3 DC current gain vs. output current

Ratings and Characteristics Curves-TR2 (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

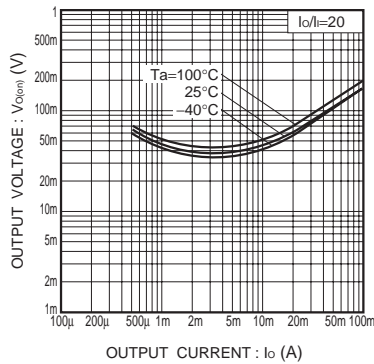


Fig.1 Output voltage vs. output current

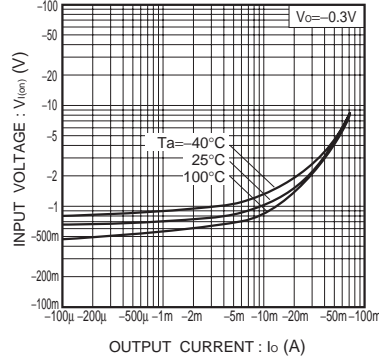


Fig.2 Input voltage vs. output current (ON characteristics)

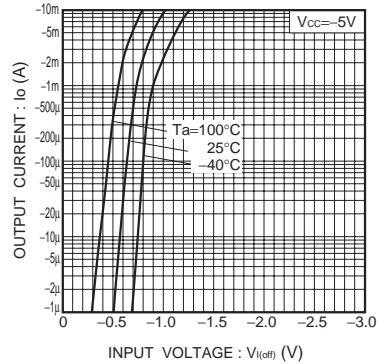


Fig.3 Output current vs. input voltage (OFF characteristics)

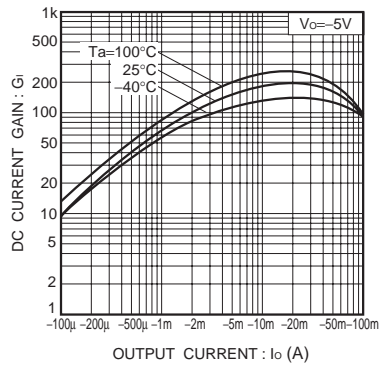


Fig.4 DC current gain vs. output current

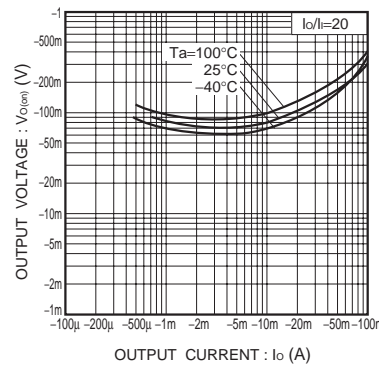
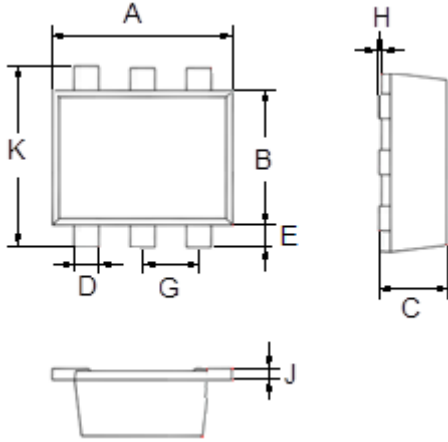


Fig.5 Output voltage vs. output current



Package Outline Dimensions (Unit: mm)



SOT-563		
Dimension	Min.	Max.
A	1.500	1.700
B	1.100	1.300
C	0.525	0.600
D	0.170	0.270
E	0.100	0.300
G	0.450	0.550
H	0.000	0.050
J	0.090	0.160
K	1.500	1.700

Package Outline Dimensions (Unit: mm)

SOT-563

