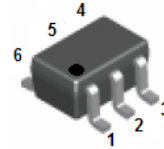
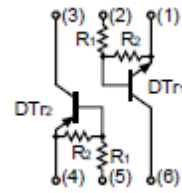


Features

- Both the DTA143Z chip and DTC143Z chip in SOT-363 Package
- Reduces board space
- Reduces component count
- Surface mount package suited for automated assembly
- Halogen free
- Qualified to AEC-Q101 standards for high reliability

Mechanical Data

- Case: SOT-363
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



SOT-363

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
TUMD22N	SOT-363	3000 pcs / Tape & Reel	D22

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

Symbol	Parameter	Value		Unit
		T _{r1}	T _{r2}	
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	P _D	200	mW
Operating Junction Temperature Range	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Electrical Characteristics- T_{r1} (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
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	$V_{O(on)}$	$I_O = 5mA, I_I = 0.25mA$	-	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	k Ω
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- T_{r2} (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
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	$V_{O(on)}$	$I_O = -5mA, I_I = -0.25mA$	-	-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	k Ω
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- T_{R1} (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

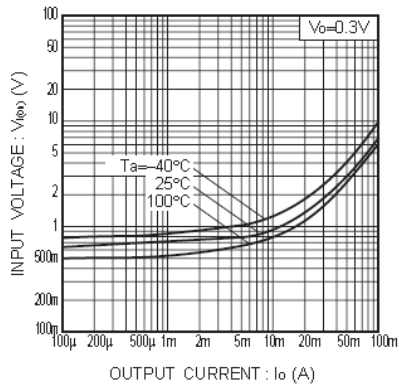


Fig.1 Input voltage vs. output current (ON characteristics)

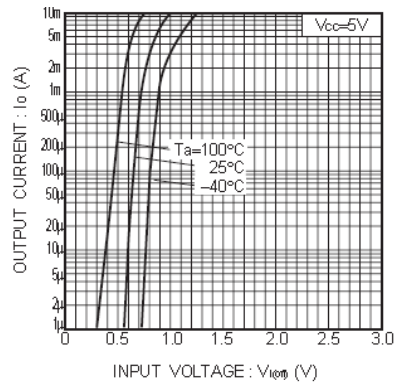


Fig.2 Output current vs. input voltage (OFF characteristics)

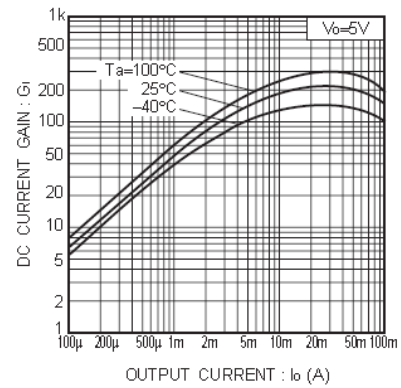


Fig.3 DC current gain vs. output current

Ratings and Characteristics Curves- T_{R2} (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

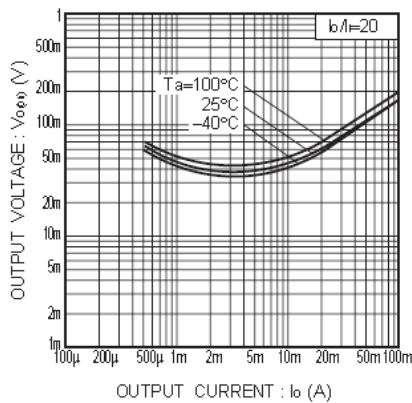


Fig.1 Output voltage vs. output current

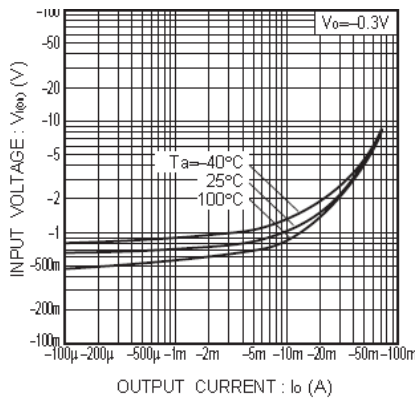


Fig.2 Input voltage vs. output current (ON characteristics)

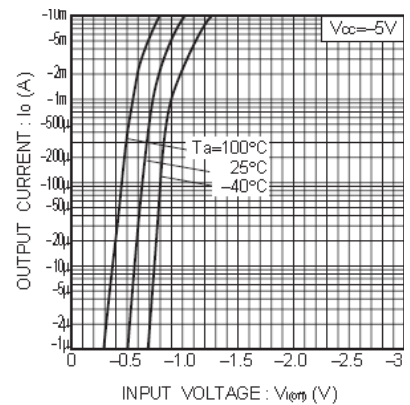


Fig.3 Output current vs. input voltage (OFF characteristics)

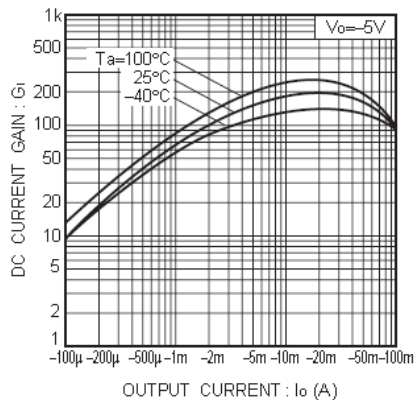


Fig.4 DC current gain vs. output current

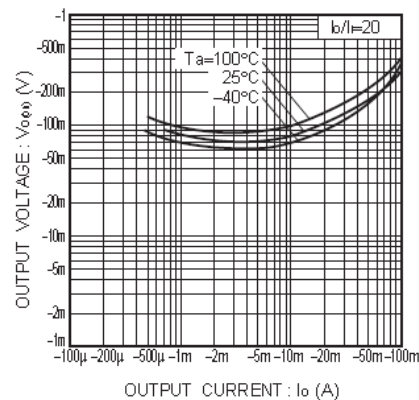
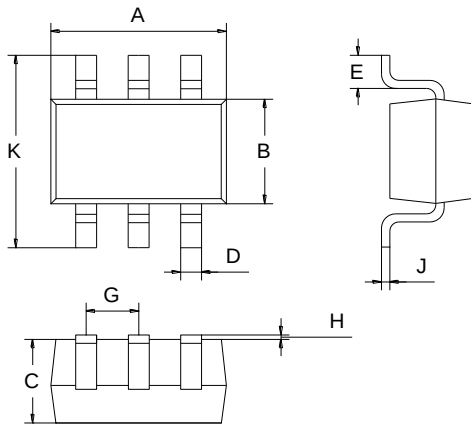


Fig.5 Output voltage vs. output current

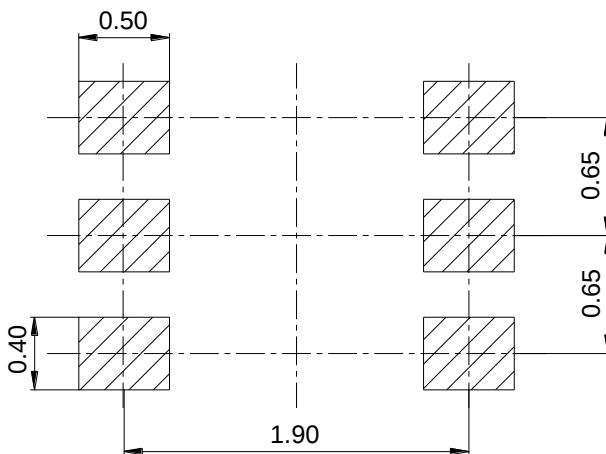
Package Outline Dimensions (Unit: mm)



SOT-363		
Dimension	Min.	Max.
A	2.00	2.20
B	1.15	1.35
C	0.85	1.05
D	0.15	0.35
E	0.25	0.40
G	0.60	0.70
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

Package Outline Dimensions (Unit: mm)

SOT-363



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