

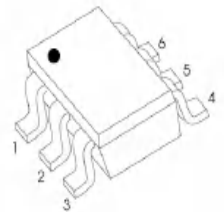
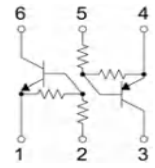


### UMD22N DUAL DIGITAL TRANSISTOR (NPN+PNP)

#### FEATURES

- Both the DTA143Z chip and DTC143Z chip in a package
- Mounting possible with SOT-363 automatic mounting machines.
- Transistor elements are independent, eliminating interference.
- Mounting cost and area be cut in half.

Marking: D22



SOT-363

#### DTr1 DTC143Z

Absolute maximum ratings(Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	$V_{CC}$	50	V
Input voltage	$V_{IN}$	-5~+30	V
Output current	$I_O$	100	mA
	$I_{C(MAX)}$	100	
Power dissipation	$P_d$	150	mW
Operation Junction and Storage Temperature Range	$T_J, T_{stg}$	-55~+150	°C

Electrical characteristics (Ta=25°C)

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



DTr2 DTA143Z

Absolute maximum ratings(Ta=25°C)

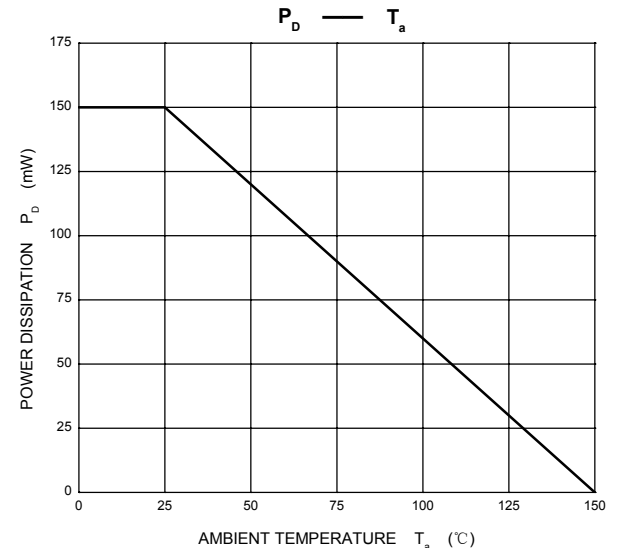
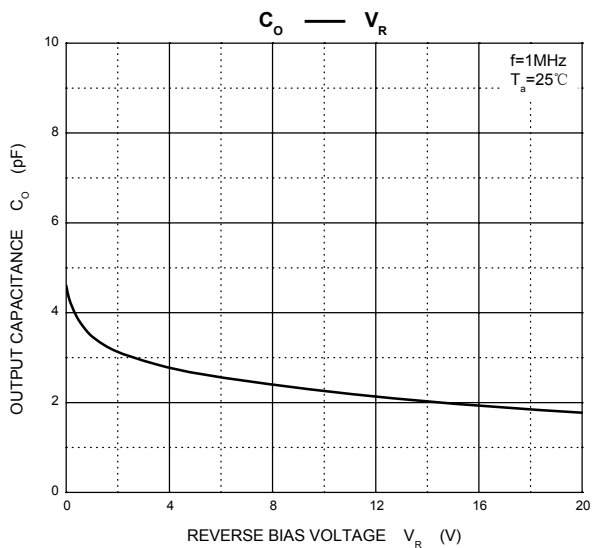
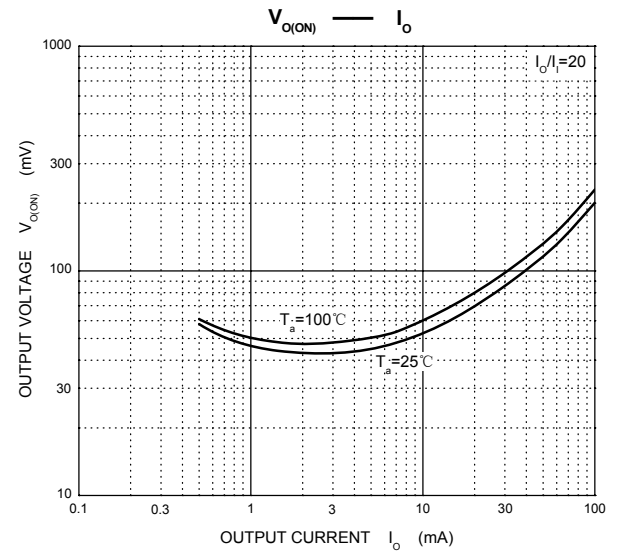
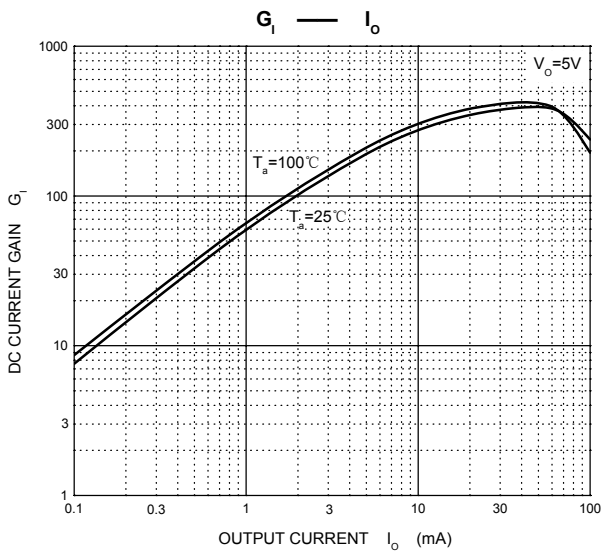
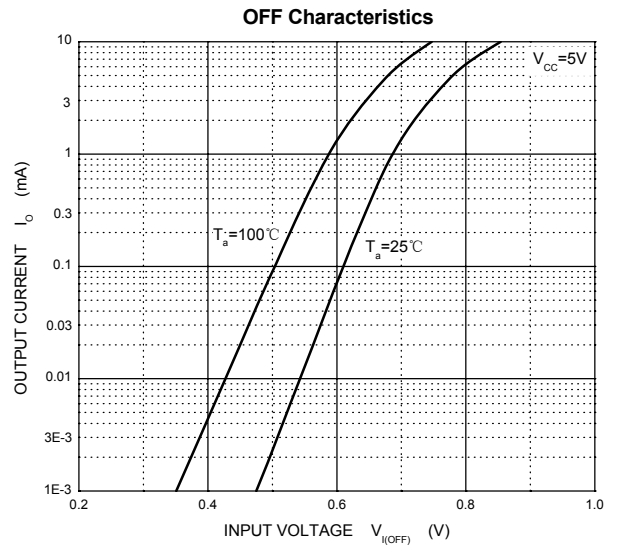
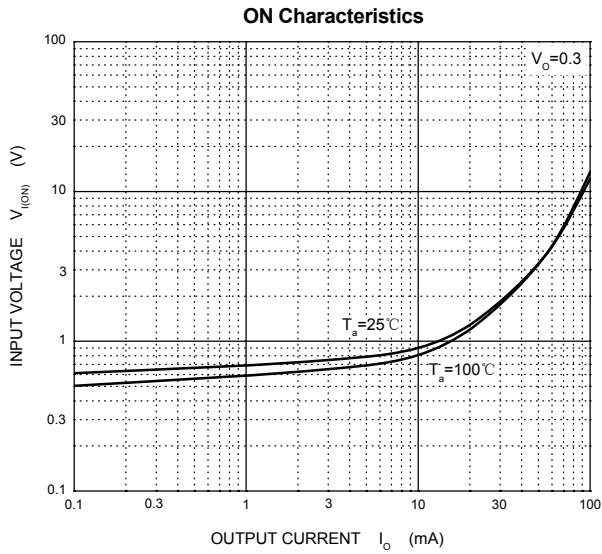
Parameter	Symbol	Limits	Unit
Supply voltage	$V_{CC}$	-50	V
Input voltage	$V_{IN}$	-30~+5	V
Output current	$I_O$	-100	mA
	$I_{C(MAX)}$	-100	
Power dissipation	$P_d$	150	mW
Operation Junction and Storage Temperature Range	$T_J, T_{stg}$	-55~+150	°C

Electrical characteristics (Ta=25°C)

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

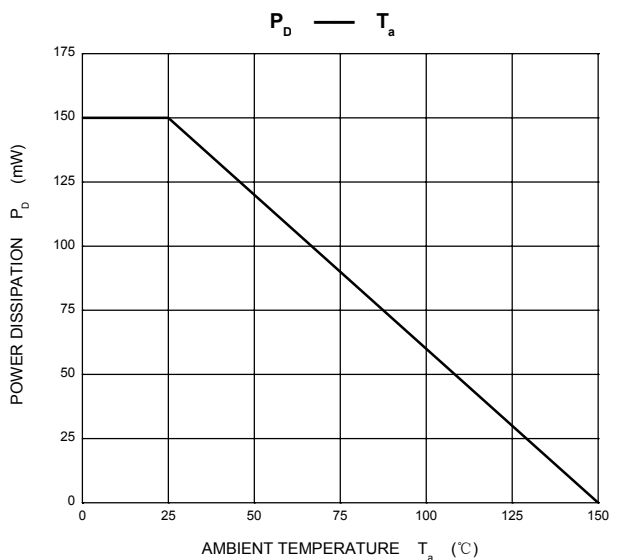
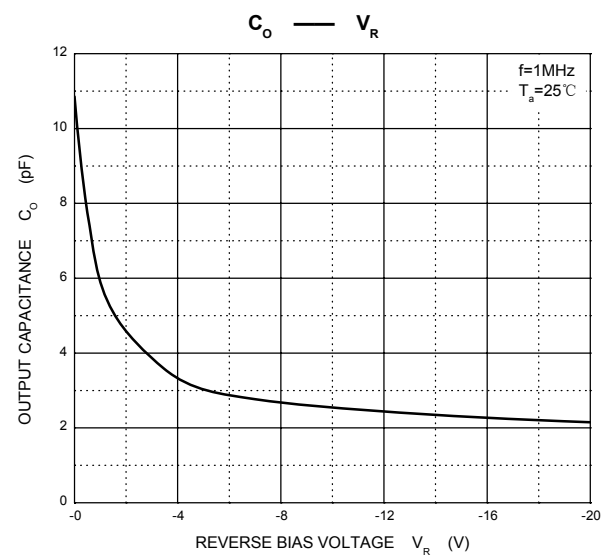
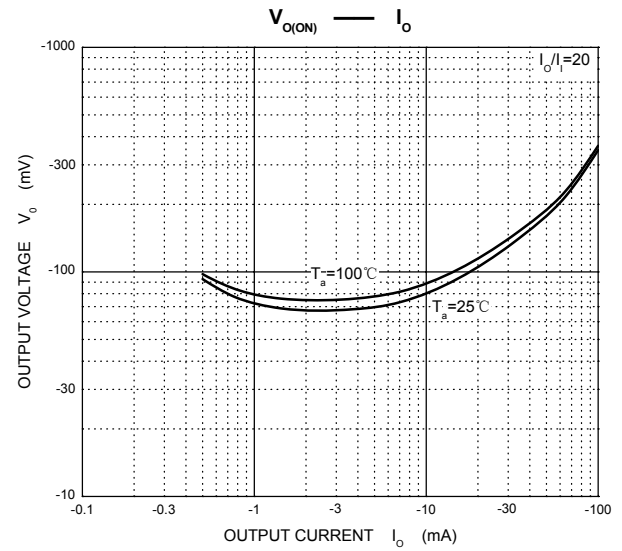
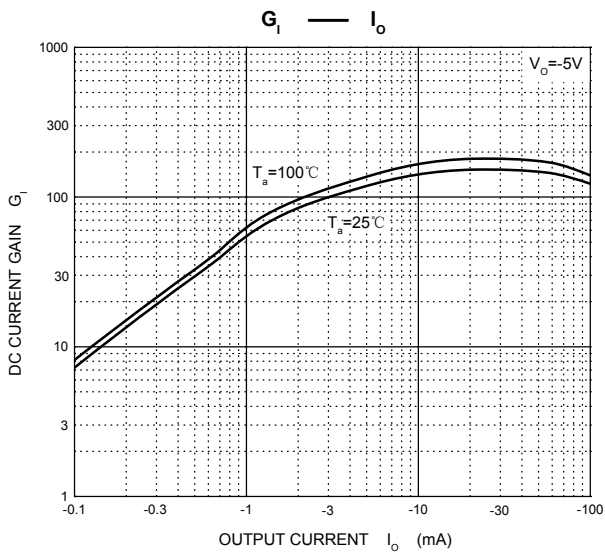
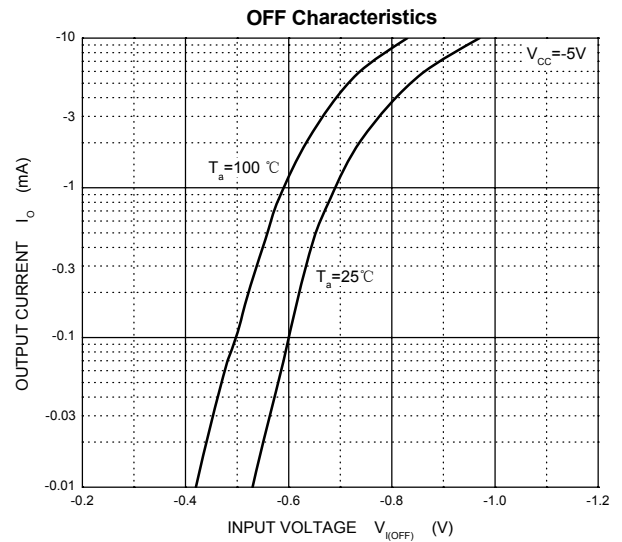
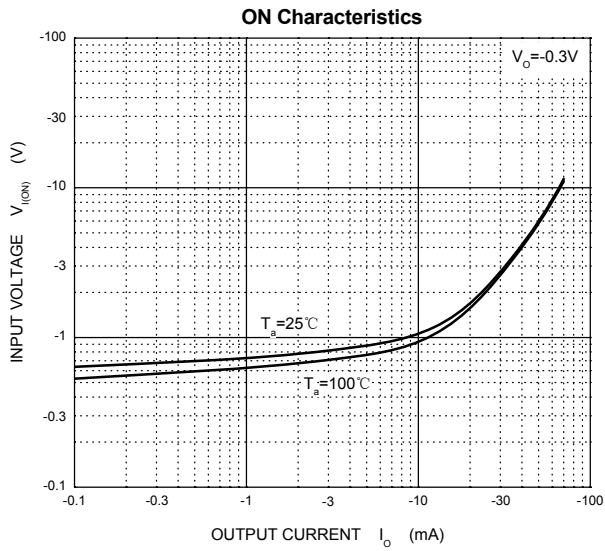


### Typical Characteristics



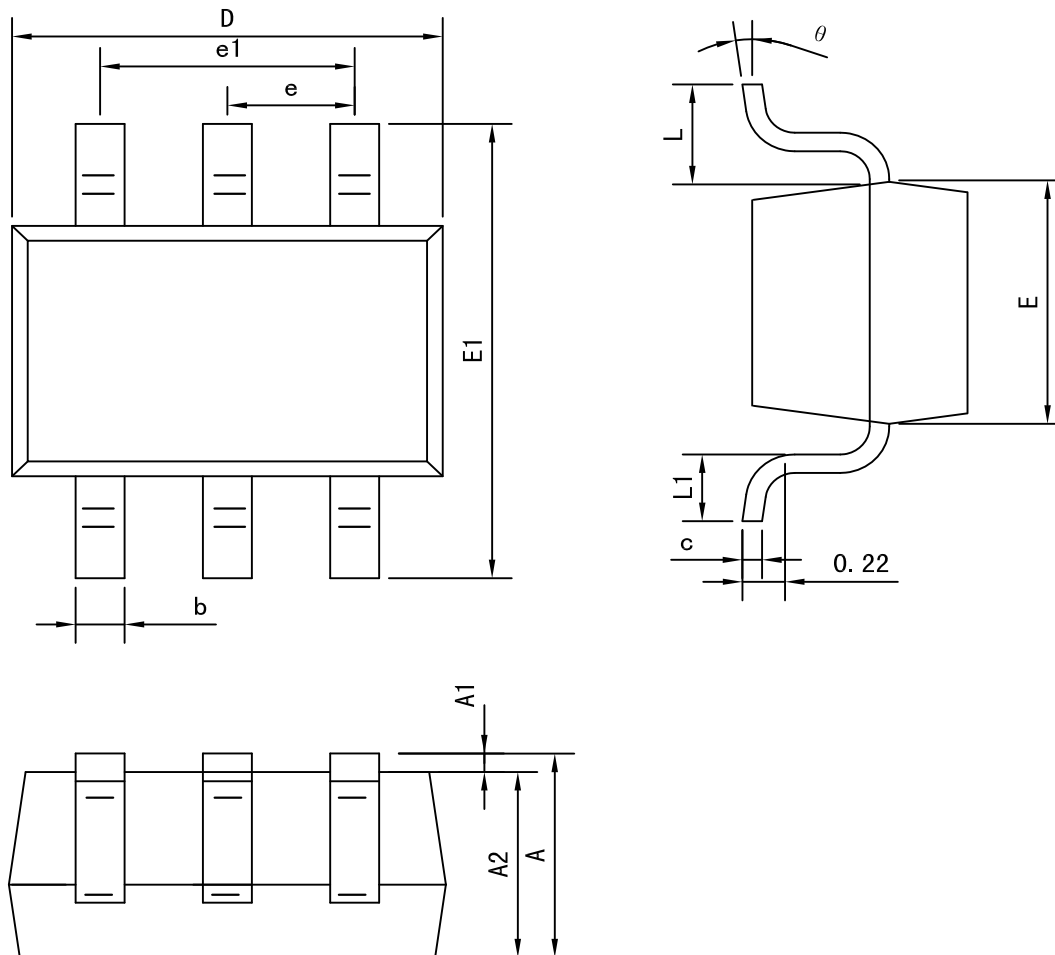


## Typical Characteristics





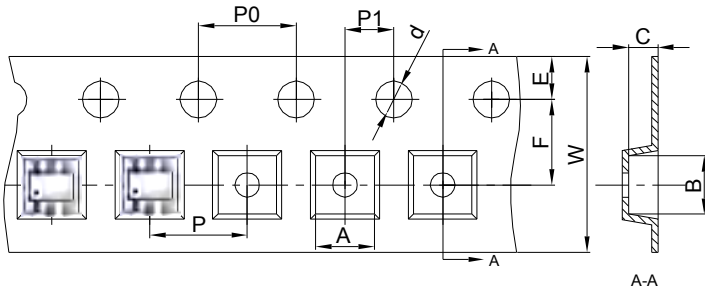
## SOT-363 Package outline dimensions



Symbol	Dimension in Millimeters	
	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
c	0.080	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.450
e	0.650 TYP	
e1	1.200	1.400
L	0.525 REF	
L1	0.260	0.460
$\theta$	0°	8°



### SOT-363 Embossed Carrier Tape



**Packaging Description:**

SOT-363 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-363	2.25	2.55	1.20	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

### SOT-363 Tape Leader and Trailer

