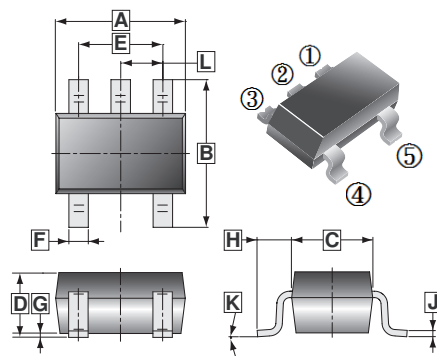


RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

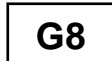
- Built-In biasing resistors
- Two DTC143Z transistors are built-in a package
- Emitter(GND)-common type
- Only the on/off conditions need to be set for operation, making the circuit design easy
- The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input. They also have the advantage of completely eliminating parasitic effects
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see inner circuit)

SOT-353



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.00	2.20	G	0.100	REF.
B	2.15	2.45	H	0.525	REF.
C	1.15	1.35	J	0.08	0.15
D	0.90	1.10	K	8°	
E	1.20	1.40	L	0.650 TYP.	
F	0.15	0.35			

MARKING



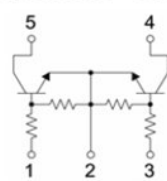
PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-353	3K	7 inch

ORDER INFORMATION

Part Number	Type
UMG8N	Lead (Pb)-free
UMG8N-C	Lead (Pb)-free and Halogen-free

EQUIVALENT CIRCUIT



ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

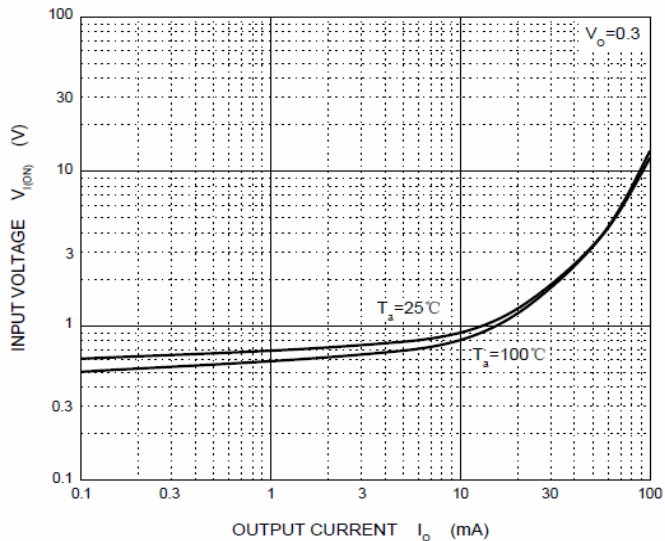
Parameter	Symbol	Value	Unit
Supply Voltage	V _{CC}	50	V
Input Voltage	V _{IN}	-5~30	
Output Current	I _O	100	mA
Power Dissipation	P _D	150	mW
Junction and Storage Temperature	T _J , T _{STG}	150, -55~150	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

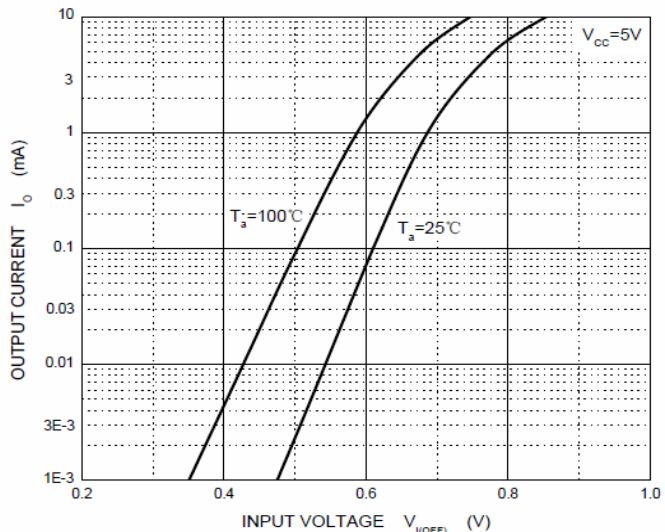
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Input Voltage	V _{I(off)}	0.5	-	-	V	V _{CC} =5V, I _O =100μA
	V _{I(on)}	-	-	1.3		V _O =0.3V, I _O =5mA
Output Voltage	V _{O(on)}	-	-	0.3		I _O =5mA, I _I =0.25mA
Input Current	I _I	-	-	1.8	mA	V _I =5V
Output Current	I _{O(off)}	-	-	0.5	μA	V _{CC} =50V, V _I =0
DC Current Gain	G _I	80	-	-	V	V _O =5V, I _O =10mA
Input Resistance	R ₁	3.29	4.7	6.11	kΩ	
Resistance Ratio	R ₂ /R ₁	8	10	12		
Transition Frequency	f _T	-	250	-	MHz	V _O =10V, I _O =5mA, f=100MHz

CHARACTERISTICS CURVE (NPN)

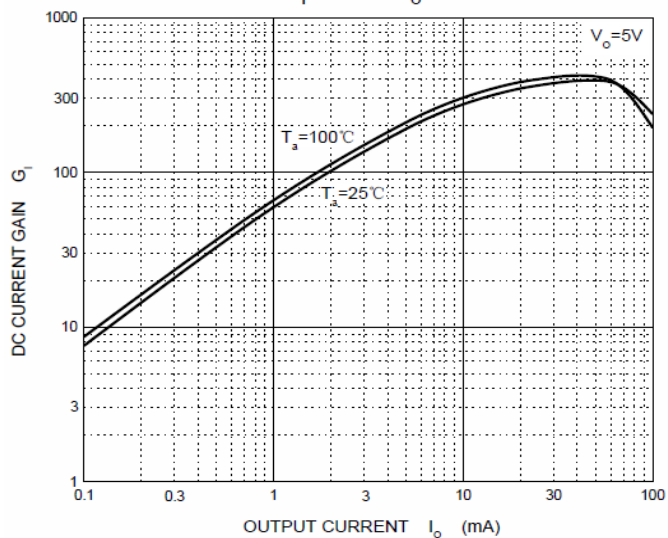
ON Characteristics



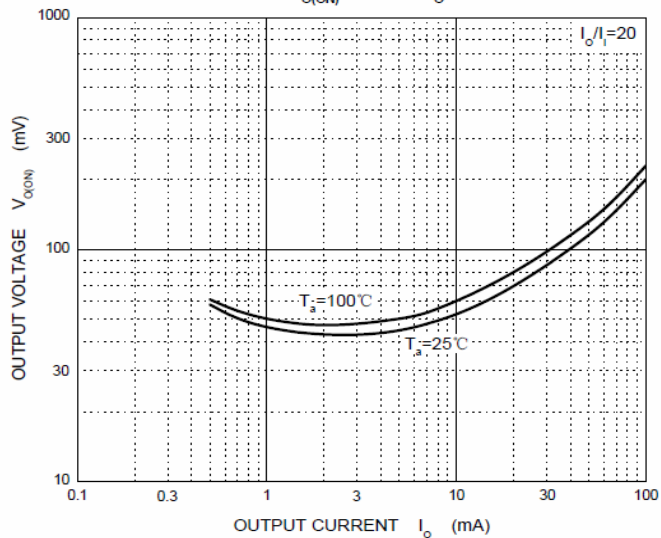
OFF Characteristics



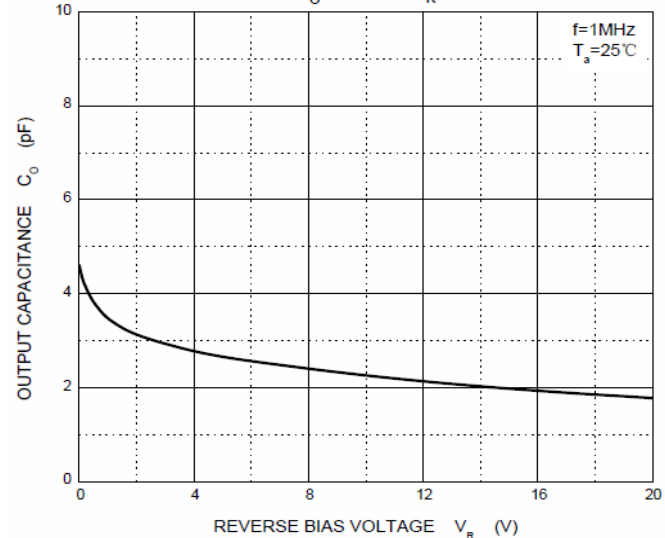
G_I — I_o



$V_{O(ON)}$ — I_o



C_o — V_R



P_D — T_a

