



UMD15N

Digital Transistors

Features

- Both the DTC143E chip and DTA143E chip in a package
- Mounting possible with SOT-363 automatic mounting machines.
- Transistor elements are independent, eliminating interference.
- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

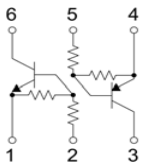
T_{R1} Absolute maximum ratings @ 25°C

Symbol	Parameter	Value	Unit
V _{CC}	Supply voltage	50	V
V _{IN}	Input voltage	-10~30	V
I _O	Output current	100	mA
I _{C(MAX)}	Collector Current	100	mA
P _d	Power dissipation	150	mW
T _j	Junction temperature	150	°C
T _{stg}	Storage temperature	-55~150	°C

T_{R1} Electrical Characteristics @ 25°C

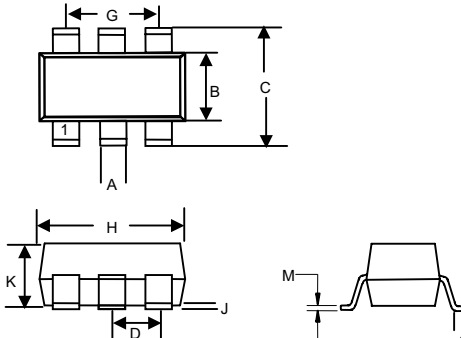
Symbol	Parameter	Min	Typ	Max	Unit
V _{I(off)}	Input voltage (V _{CC} =5V, I _O =100μA)	0.5	---	---	V
V _{I(on)}	Input voltage (V _O =0.3V, I _O =20mA)	---	---	3.0	V
V _{O(on)}	Output voltage (I _O /I _I =10mA/0.5mA)	---	---	0.3	V
I _I	Input current (V _I =5V)	---	---	1.8	mA
I _{O(off)}	Output current (V _{CC} =50V, V _I =0)	---	---	0.5	μA
G _I	DC current gain (V _O =5V, I _O =10mA)	20	---	---	
R ₁	Input resistance	3.29	4.7	6.11	KΩ
R ₂ /R ₁	Resistance ratio	0.8	1	1.2	
f _T	Transition frequency (V _{CE} =10V, I _E =-5mA, f=100MHz)	---	250	---	MHz

Equivalent circuit



Marking :D15

SOT-363



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.006	.014	0.15	0.35	
B	.045	.053	1.15	1.35	
C	.085	.096	2.15	2.45	
D	.026		0.65Nominal		
G	.047	.055	1.20	1.40	
H	.071	.087	1.80	2.20	
J	---	.004	---	0.10	
K	.035	.043	0.90	1.10	
L	.010	.018	0.26	0.46	
M	.003	.006	0.08	0.15	

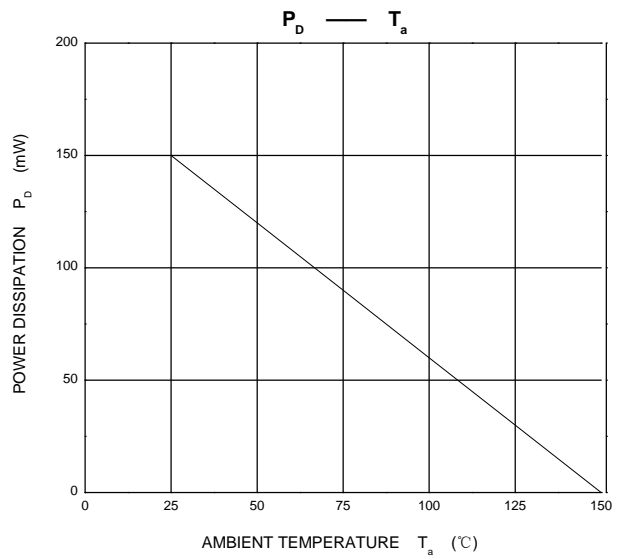
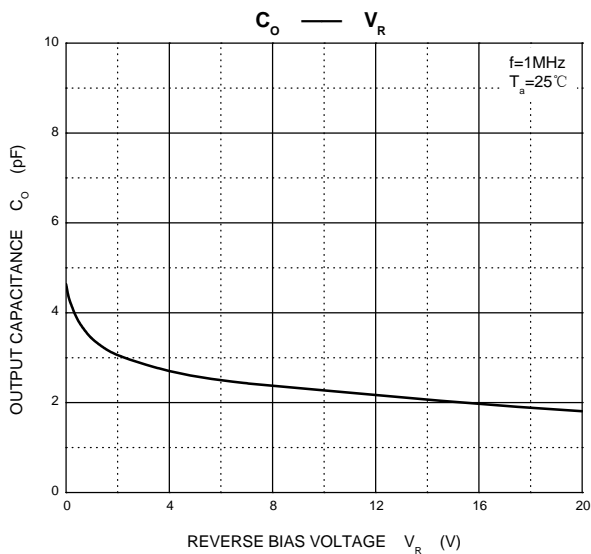
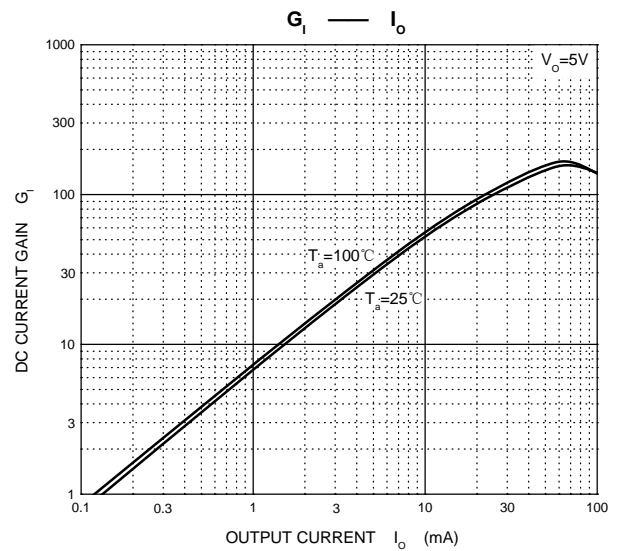
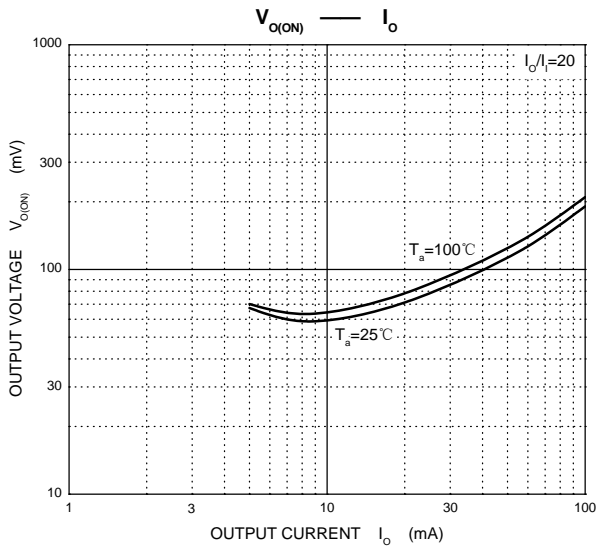
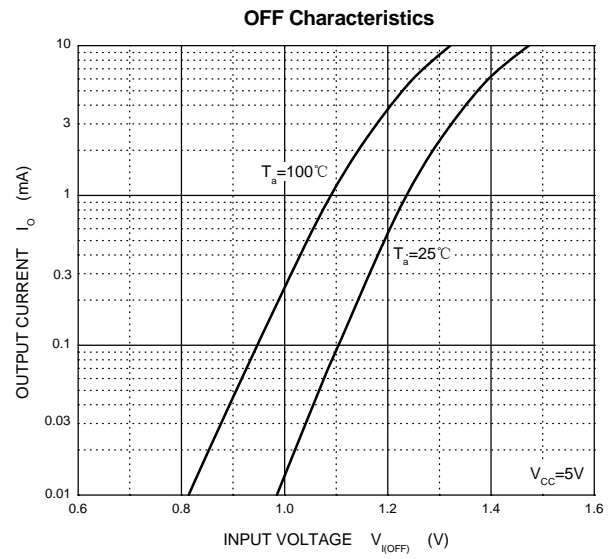
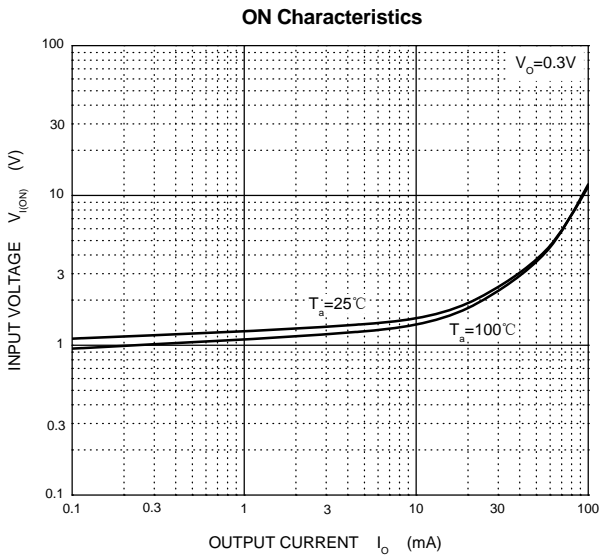
T_{R2} Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V _{CC}	-50	V
Input voltage	V _{IN}	-30~10	V
Output current	I _O	-100	mA
	I _{C(MAX)}	-100	
Power dissipation	Pd	150	mW
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55~150	°C

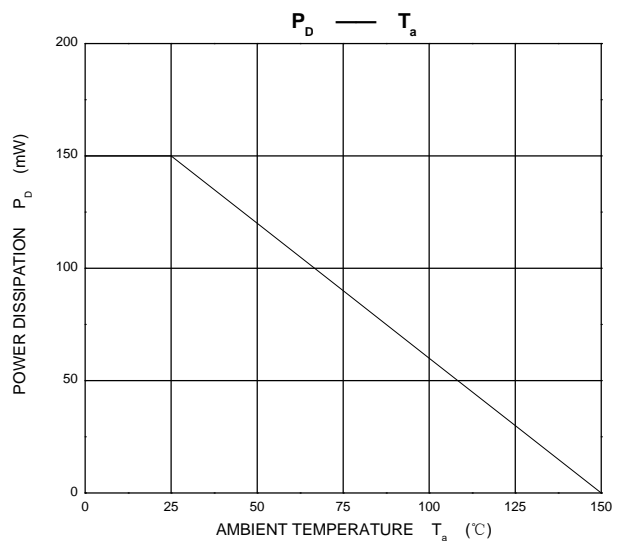
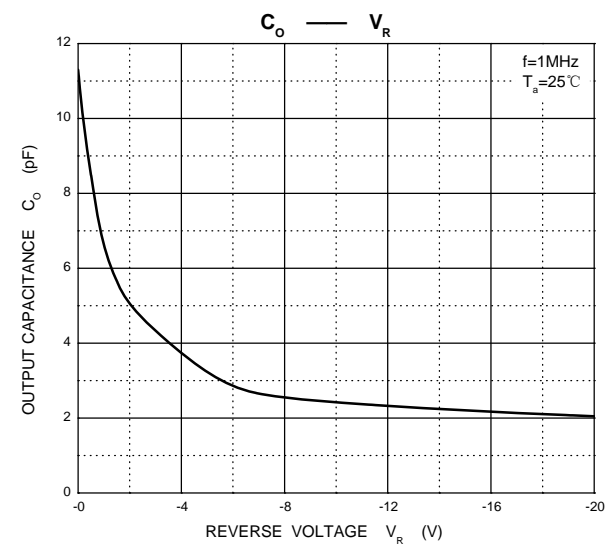
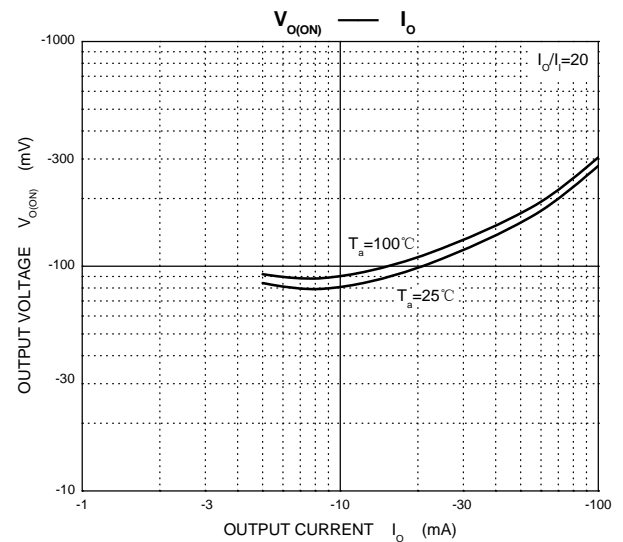
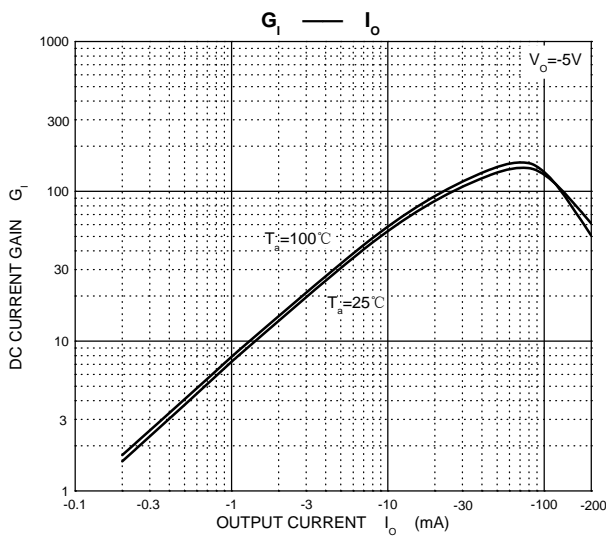
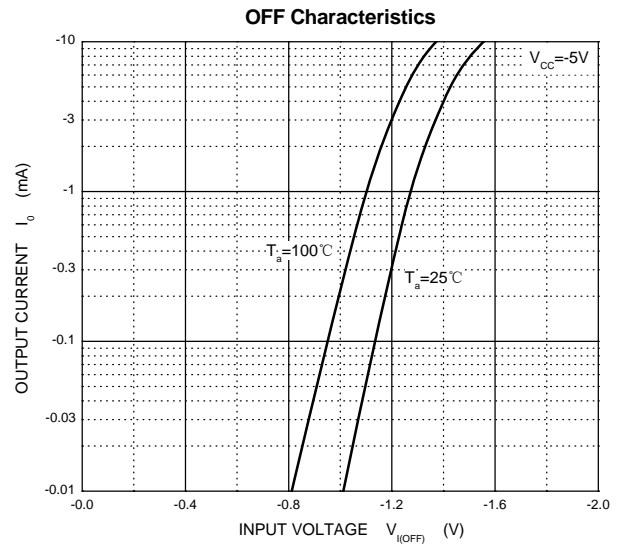
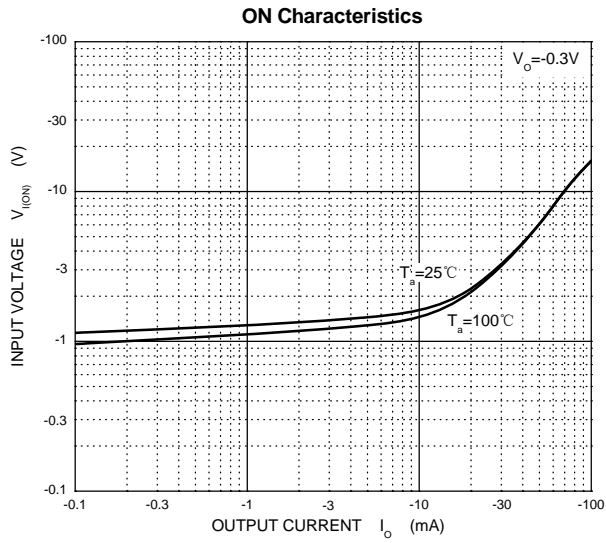
T_{R2} Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ	Max.	Unit	Conditions
Input voltage	V _{I(off)}	-0.5			V	V _{CC} =-5V, I _O =-100μA
	V _{I(on)}			-3.0		V _O =-0.3V, I _O =-2mA
Output voltage	V _{O(on)}		-0.1	-0.3	V	I _O /I _I =-10mA/-0.5mA
Input current	I _I			-0.18	mA	V _I =-5V
Output current	I _{O(off)}			-0.5	μA	V _{CC} =-50V, V _I =0
DC current gain	G _I	68				V _O =-5V, I _O =-5mA
Input resistance	R ₁	3.29	4.7	6.11	KΩ	-
Resistance ratio	R ₂ /R ₁	0.8	1	1.2		-
Transition frequency	f _T		250		MHz	V _{CE} =-10V, I _E =5mA, f=100MHz

Typical Characteristics



Typical Characteristics





Micro Commercial Components

Ordering Information :

Device	Packing
(Part Number)-TP	Tape&Reel;3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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