Features

- Both the DTA114Y Chip and DTC114Y Chip In a Package
- Mounting Possible With SOT-563 Automatic Mounting Machines
- Transistor Elements Independent, Eliminating Interference
- Halogen Free. “Green” Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant.See Ordering Information)

NPN&PNP Digital Transistor

Maximum Ratings @ 25°C Unless Otherwise Specified

DTR1

Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	50	V
Input Voltage	V_{IN}	-6~40	V
Output Current	I_O	70	mA
	$I_{C(Max)}$	100	mA
Power Dissipation	P_D	150	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	-55~150	°C

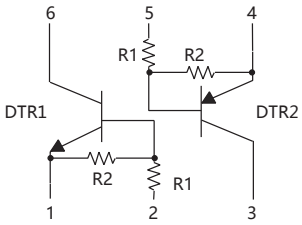
DTR2

Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	-50	V
Input Voltage	V_{IN}	-40~6	V
Output Current	I_O	-70	mA
	$I_{C(Max)}$	-100	mA
Power Dissipation	P_D	150	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	-55~150	°C

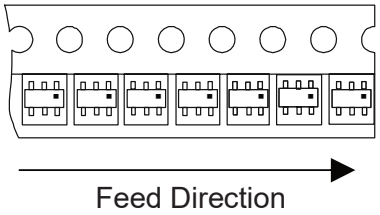
Note: 1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Device Marking：D9

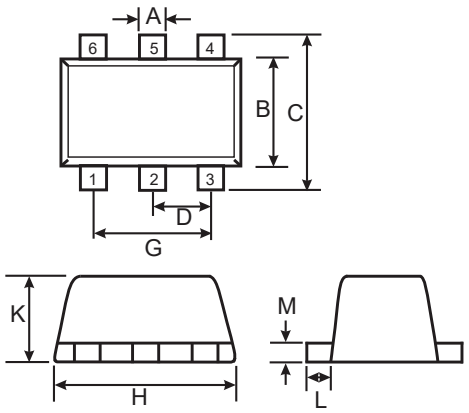
Internal Structure



Special packing as below



SOT-563



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.006	0.011	0.15	0.30	
B	0.043	0.051	1.10	1.30	
C	0.059	0.067	1.50	1.70	
D	0.020		0.50		TYP.
G	0.035	0.043	0.90	1.10	
H	0.059	0.067	1.50	1.70	
K	0.022	0.026	0.55	0.65	
L	0.004	0.011	0.10	0.30	
M	0.004	0.007	0.10	0.18	

Electrical Characteristics @ 25°C Unless Otherwise Specified

DTR1 NPN

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Input Voltage	$V_{I(off)}$	0.3	---	---	V	V_{CC}=5V, I_O=100μA
	$V_{I(on)}$	---	---	1.4	V	V_O=0.3V, I_O=1mA
Output Voltage	$V_{O(on)}$	---	---	0.3	V	I_O=5mA,I_I=0.25mA
Input Current	I_I	---	---	0.88	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	7	10	13	KΩ	
Resistance Ratio	R_2/R_1	3.7	4.7	5.7		
Transition Frequency	f_T	---	250	---	MHz	V_{CE}=10V, I_E=-5mA, f=100MHz

DTR2 PNP

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Input Voltage	$V_{I(off)}$	-0.3	---	---	V	V_{CC}=-5V, I_O=-100μA
	$V_{I(on)}$	---	---	-1.4	V	V_O=-0.3V, I_O=-1mA
Output Voltage	$V_{O(on)}$	---	---	-0.3	V	I_O=-5mA,I_I=-0.25mA
Input Current	I_I	---	---	-0.88	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	7.0	10	13	KΩ	
Resistance Ratio	R_2/R_1	3.7	4.7	5.7		
Transition Frequency	f_T	---	250	---	MHz	V_{CE}=-10V, I_E=5mA, f=100MHz

Curve Characteristics

Fig. 1 - DTR1 DC Current Gain Characteristics

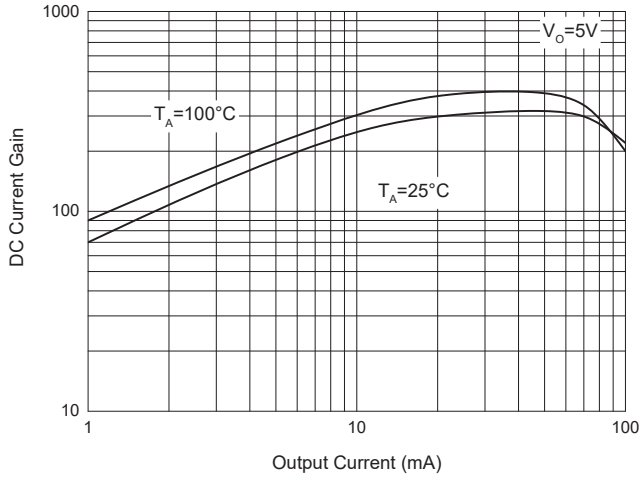


Fig. 2 - DTR1 Input Voltage (on) Characteristics

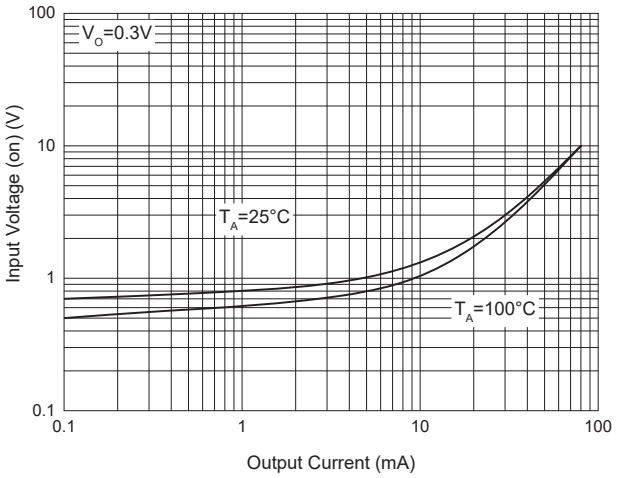


Fig. 3 - DTR1 Input Voltage (off) Characteristics

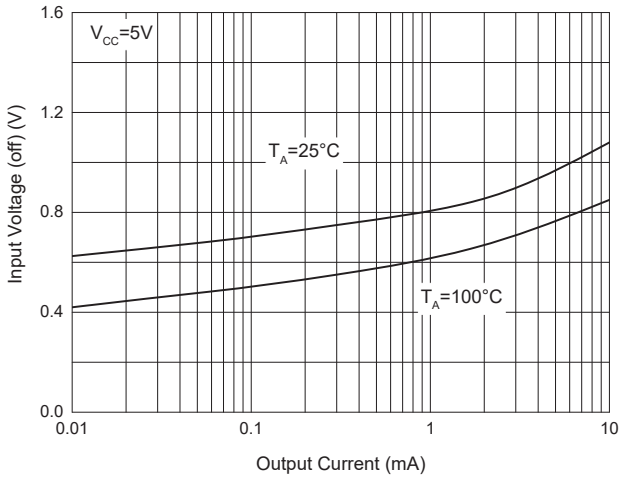


Fig. 4 - DTR1 Output Voltage Characteristics

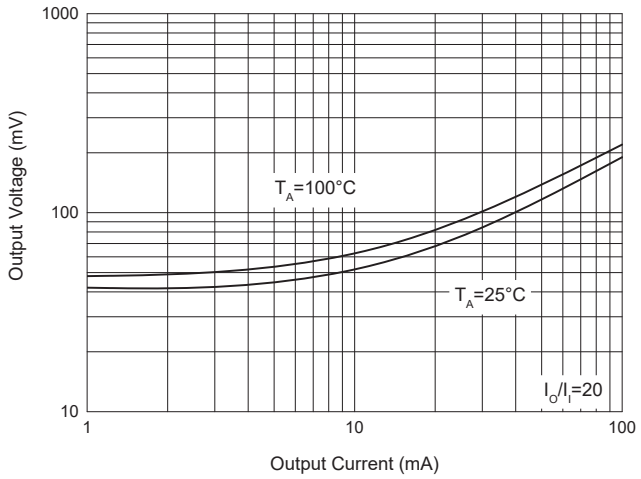


Fig. 5 - DTR2 DC Current Gain Characteristics

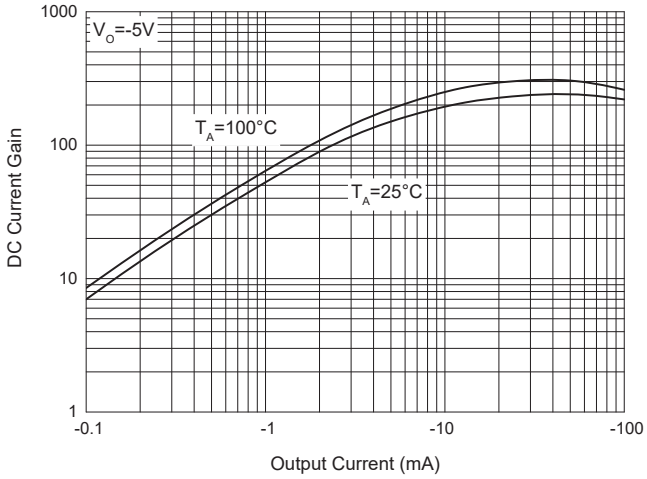
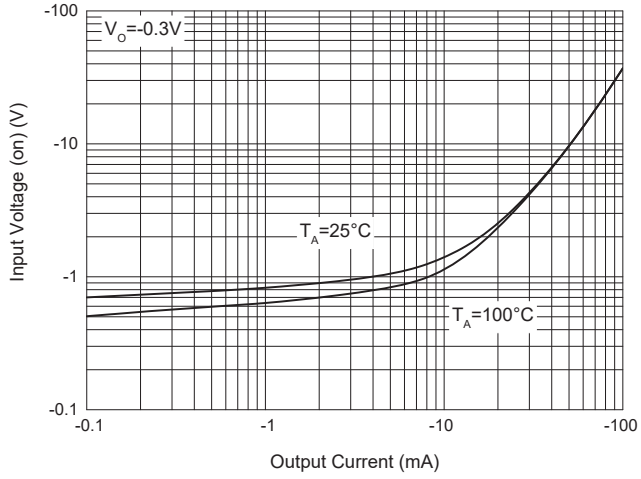


Fig. 6 - DTR2 Input Voltage (on) Characteristics



Curve Characteristics

Fig. 7 - DTR2 Input Voltage (off) Characteristics

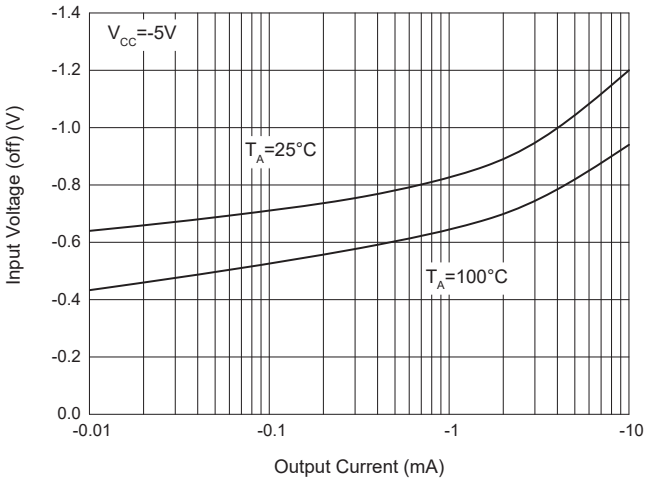


Fig. 8 - DTR2 Output Voltage Characteristics

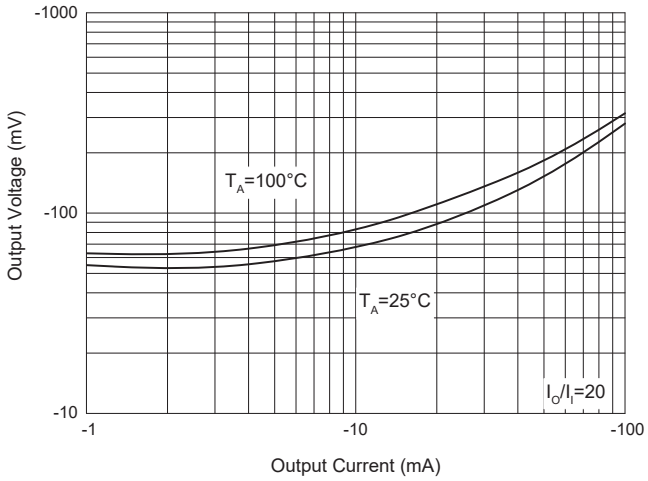
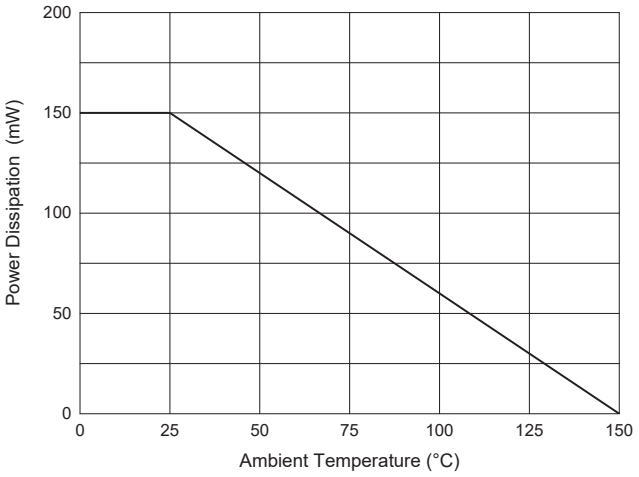


Fig. 9 - Power Derating Curve



Ordering Information

Device	Packing
EMD9-TPQ2	Tape&Reel:3Kpcs/Reel

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