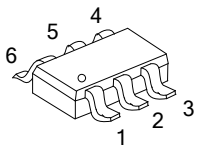
UD3K

DUAL TRANSISTOR

GENERAL PURPOSE
(DUAL DIGITAL TRANSISTOR)

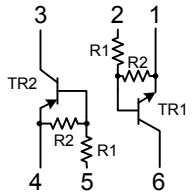


SOT-363

■ FEATURES

* Both the DTA114E chip and DTC114E chip in a SOT-363 package.
* NPN/PNP silicon transistor(Built-in resistor type)

■ EQUIVALENT CIRCUIT



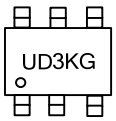
■ ORDERING INFORMATION

Ordering Number	Package	Pin Assignment						Packing
		1	2	3	4	5	6	
UD3KG-AL6-R	SOT-363	G	I	O	G	I	O	Tape Reel

Note: G: GND, I: Input, O: Output

UD3KG-AL6-R (1) Packing Type (2) Package Type (3) Halogen Free	(1) R: Tape Reel (2) AL6: SOT-363 (3) G: Halogen Free

■ MARKING



The following characteristics apply to Both TR1 and TR2, however, the "-" sign on TR2 values for the PNP type have been omitted.

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{CC}	50	V
Input Voltage	V_{IN}	-10	V
		40	V
Output Current	I_{OUT}	50	mA
	$I_{C(MAX)}$	100	mA
Total Power Dissipation (120mW per element must not be exceeded)	P_D	150	mW
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (Ta=25℃)

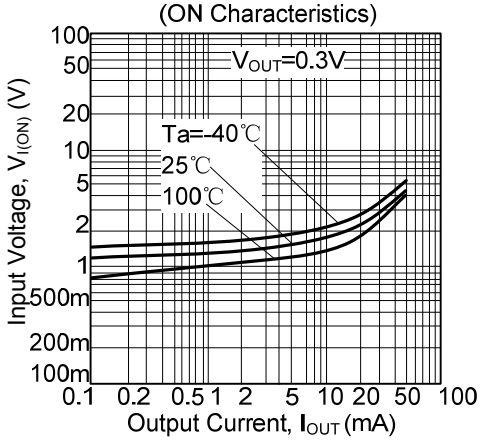
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	$V_{I(OFF)}$	V_{CC}=5V, I_{OUT}=100μA			0.5	V
	$V_{I(ON)}$	V_{OUT}=0.3V, I_{OUT}=10mA	3			V
Output Voltage	$V_{O(ON)}$	I_{OUT}=10mA, I_{IN}=0.5mA		0.1	0.3	V
Input Current	I_{IN}	V_{IN}=5V			0.88	mA
Output Current	$I_{O(OFF)}$	V_{CC}=50V, V_{IN}=0V			0.5	μA
DC Current Gain	h_{FE}	V_{OUT}=5V, I_{OUT}=5mA	30			
Transition Frequency	f_T	V_{CE}=10V, I_E=-5mA, f=100MHz (Note)		250		MHz
Input Resistance	R_1	V_{CE}/I_C=5V/1mA	7	10	13	KΩ
Resistance Ratio	R_2/R_1		0.8	1	1.2	

Note: Transition Frequency of the Device

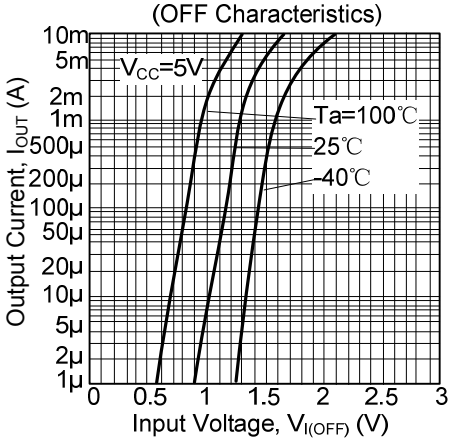
■ TYPICAL CHARACTERISTICS

TR_1 (NPN)

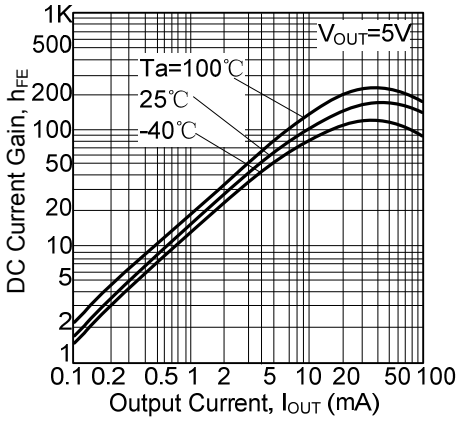
Input Voltage vs. Output Current
(ON Characteristics)



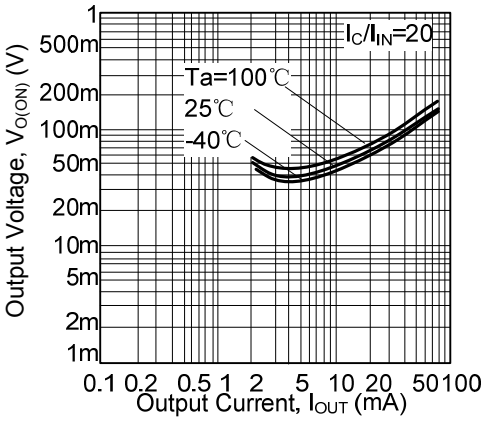
Output Current vs. Input Voltage
(OFF Characteristics)



DC Current Gain vs. Output Current

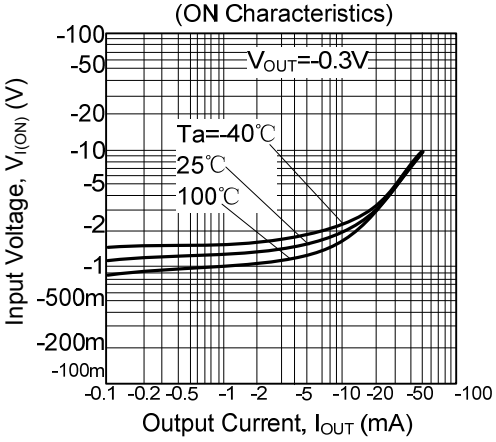


Output Voltage vs. Output Current

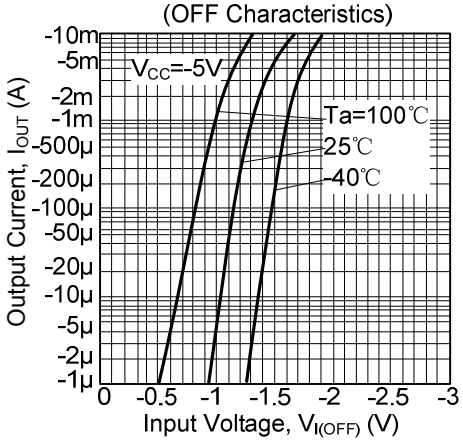


TR_2 (PNP)

Input Voltage vs. Output Current
(ON Characteristics)

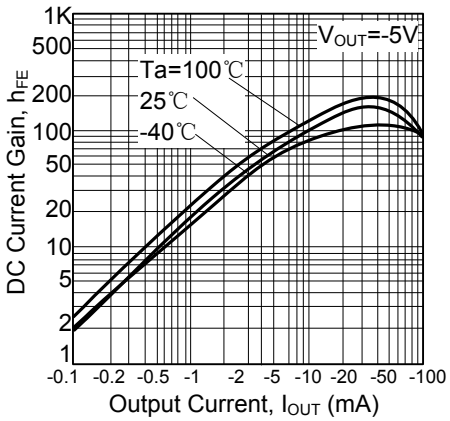


Output Current vs. Input Voltage
(OFF Characteristics)



■ TYPICAL CHARACTERISTICS(Cont.)

DC Current Gain vs. Output Current



Output Voltage vs. Output Current