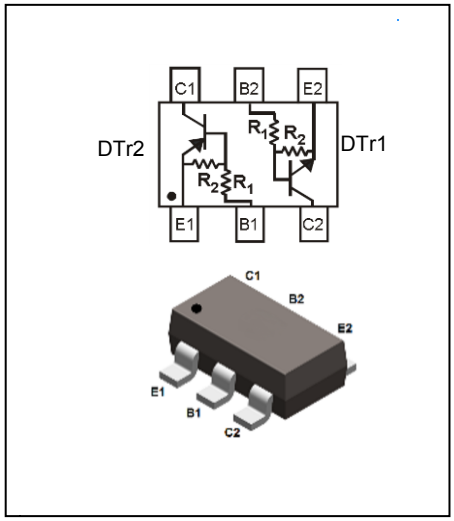
DCX124-6L

Dual Digital Transistor(NPN+PNP)

Features

- Epitaxial planar die construction
- Built-in biasing resistors



Mechanical Data

- Case: SOT-23-6L
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
DCX124-6L	SOT-23-6L	3000 pcs / Tape & Reel	C17

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value		Unit
		DTr1	DTr2	
Supply Voltage	V_{CC}	50	-50	V
Input Voltage	V_I	-10 ~ +40	+10 ~ -40	V
Output Current	I_O	30	-30	mA
Collector Current	$I_{C(Max)}$	100	-100	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation *1	P_D	300	mW
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	417	°C/W
Operating Junction Temperature Range	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Note 1: Mounted on FR4 PC Board with recommended pad layout

Electrical Characteristics-DTr1 (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Voltage	$V_{I(OFF)}$	V_{CC} = 5V, I_O = 100μA	0.5	-	-	V
Input Voltage	$V_{I(ON)}$	V_O = 0.3V, I_O = 5mA	-	-	3	V
Output Voltage	$V_{O(on)}$	I_o = 10mA, I_I = 0.5mA	-	-	0.3	V
Input Current	I_I	V_I = 5V	-	-	0.36	mA
Output Current	$I_{O(off)}$	V_{CC} = 50V, V_I = 0V	-	-	0.5	μA
DC Current Gain	G_I	V_O = 5V, I_O = 5mA	80	-	-	-
Input Resistor	R_1(R2)		15.4	22	28.6	kΩ
Resistance ratio	R2/R1		0.8	1	1.2	-
Gain-Bandwidth Product	f_T	V_{CE} = 10V, I_E = -5mA f = 100MHz	-	250	-	MHz

Electrical Characteristics-DTr2 (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Voltage	$V_{I(OFF)}$	V_{CC} = -5V, I_O = -100μA	-0.5	-	-	V
Input Voltage	$V_{I(ON)}$	V_O = -0.3V, I_O = -5mA	-	-	-3	V
Output Voltage	$V_{O(on)}$	I_o = -10mA, I_I = -0.5mA	-	-	-0.3	V
Input Current	I_I	V_I = -5V	-	-	-0.36	mA
Output Current	$I_{O(off)}$	V_{CC} = -50V, V_I = 0V	-	-	-0.5	μA
DC Current Gain	G_I	V_O = -5V, I_O = -5mA	80	-	-	-
Input Resistor	R_1(R2)		15.4	22	28.6	kΩ
Resistance ratio	R2/R1		0.8	1	1.2	-
Gain-Bandwidth Product	f_T	V_{CE} = -10V, I_E = 5mA f = 100MHz	-	250	-	MHz

Ratings and Characteristics Curves-DTr1 (@ T_A = 25°C unless otherwise specified)

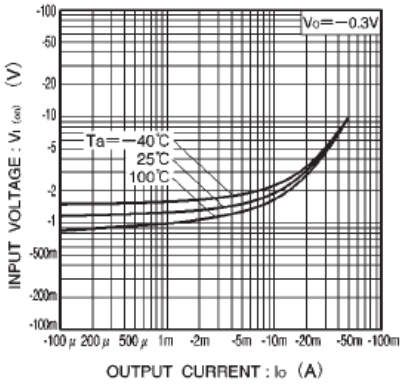


Fig.1 Input voltage vs. output current (ON characteristics)

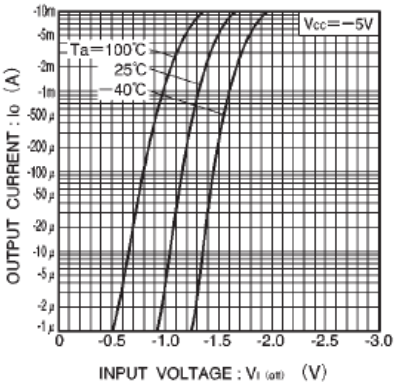


Fig.2 Output current vs. input voltage (OFF characteristics)

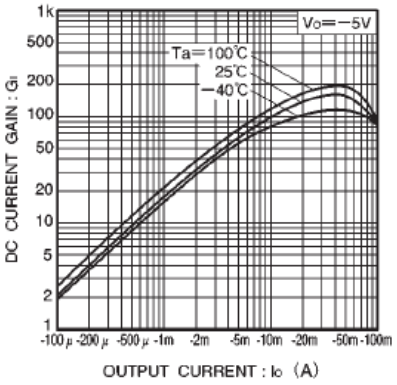


Fig.3 DC current gain vs. output current

Ratings and Characteristics Curves- DTr2 (@ T_A = 25°C unless otherwise specified)

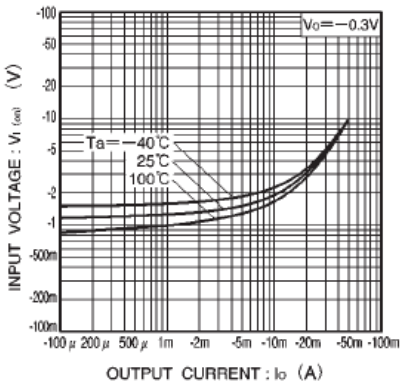


Fig.1 Input voltage vs. output current (ON characteristics)

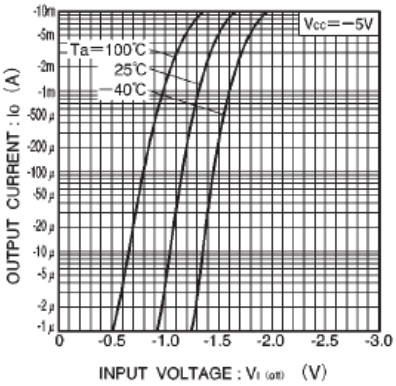


Fig.2 Output current vs. input voltage (OFF characteristics)

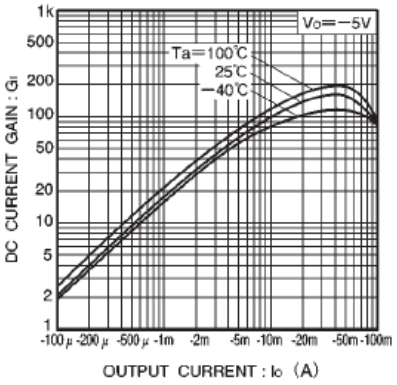


Fig.3 DC current gain vs. output current

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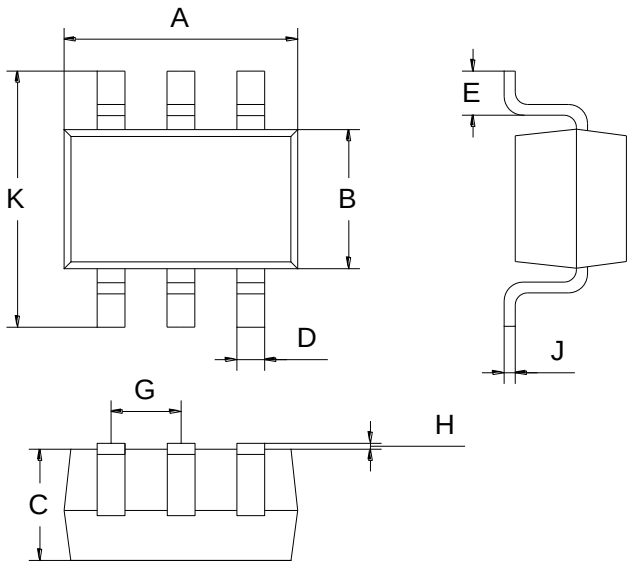
Package Outline Dimensions (Unit: mm)



SOT-23-6L		
Dimension	**Min.**	**Max.**
A	2.80	3.00
B	1.50	1.70
C	1.00	1.20
D	0.35	0.45
E	0.35	0.55
G	0.90	1.00
H	0.02	0.10
J	0.10	0.20
K	2.60	3.00

Mounting Pad Layout (Unit: mm)

SOT-23-6L