

FEATURES

Epitaxial planar die construction.

Complementary NPN types available(DTC).

Built-in biasing resistors, $R_1=R_2$.

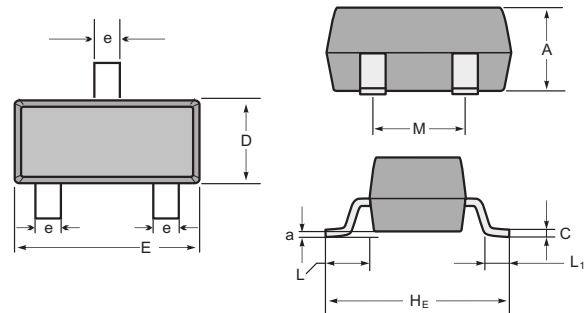
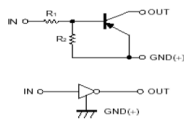
Also available in lead free version.

APPLICATIONS

The PNP style digital transistor.



SOT-23



SOT-23 mechanical data

UNIT		A	C	D	E	H _E	e	M	L	L ₁	a
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55 (ref)	0.36 (ref)	0.0
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.15
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	0.0
	min	35	3	47	110	87	12	67			6

ORDERING INFORMATION

Type No.	Marking
DTA114ECA	14
DTA124ECA	15
DTA143ECA	13
DTA144EUA	16

MAXIMUM RATING @ Ta=25 °C unless otherwise specified

Symbol	Parameter	Value	Units
V _{CC}	Supply Voltage	-50	V
V _{IN}	Input Voltage DTA114ECA DTA124ECA DTA143ECA DTA144ECA	+10 to -40 +10 to -40 +10 to -30 +10 to -40	V
I _O	Output Current DTA114ECA DTA124ECA DTA143ECA DTA144ECA	-50 -30 -100 -30	mA
I _C (Max.)	Output current ALL	-100	mA
P _D	Power Dissipation	200	mW
R _{θJA}	Thermal Resistance, Junction to Ambient Air	625	°C/W
T _j	Junction Temperature	150	°C
T _{stg}	Operating and Storage and Temperature Range	-55 to +150	°C

DTA114ECA DTA124ECA DTA143ECA DTA144ECA

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Input Voltage	$V_{I(off)}$	$V_{CC}=-5V, I_O=-100\mu A$	-0.5	-1.1	-	V
Input Voltage DTA114ECA DTA124ECA DTA143ECA DTA144ECA	$V_{I(on)}$	$V_O=-0.3V, I_O=-10mA$ $V_O=-0.2V, I_O=-5mA$ $V_O=-0.3V, I_O=-20mA$ $V_O=-0.3V, I_O=-2mA$	-	-1.9	-3	
Output Voltage	$V_{O(on)}$	$I_O/I_I=-10mA/-0.5mA,$	-	-0.1	-0.3	V
Input Current DTA114ECA DTA124ECA DTA143ECA DTA144ECA	I_I	$V_I=-5V$	-	-	-0.88 -0.36 -1.8 -0.18	mA
Output Current	$I_{O(off)}$	$V_{CC}=-50V, V_I=0V$	-	-	-0.5	μA
DC Current Gain DTA114ECA DTA124ECA DTA143ECA DTA144ECA	G_I	$V_O=-5V, I_O=-5mA$ $V_O=-5V, I_O=-5mA$ $V_O=-5V, I_O=-10mA$ $V_O=-5V, I_O=-5mA$	30 56 20 68	-	-	
Input Resistor DTA114ECA DTA124ECA DTA143ECA DTA144ECA	$R_1(R_2)$		7 15.4 3.29 32.9	10 22 4.7 47	13 28.6 6.11 61.1	k Ω
Resistance Ratio	R_2/R_1	-	0.8	1	1.2	
Gain-Bandwidth Product	f_T	$V_{CE}=-10V, I_E=5mA,$ $f=100MHz$	-	250	-	MHz

RATING AND CHARACTERISTIC CURVES (DTA114ECA DTA124ECA DTA143ECA DTA144ECA)

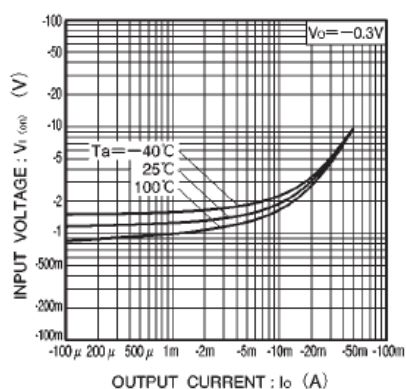


Fig.1 Input voltage vs. output current (ON characteristics)

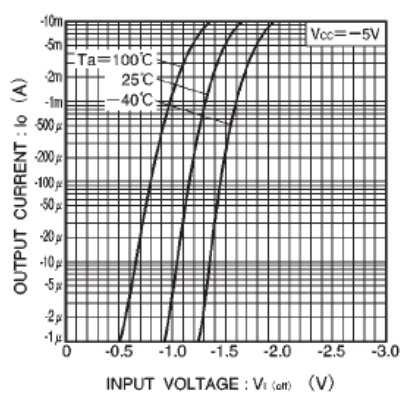


Fig.2 Output current vs. input voltage (OFF characteristics)

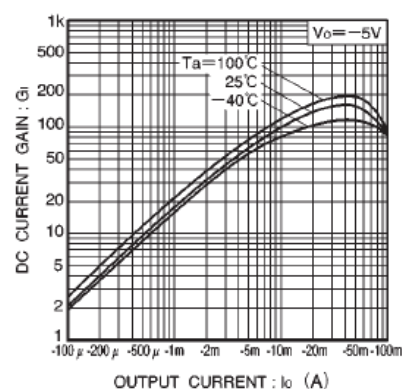


Fig.3 DC current gain vs. output current