

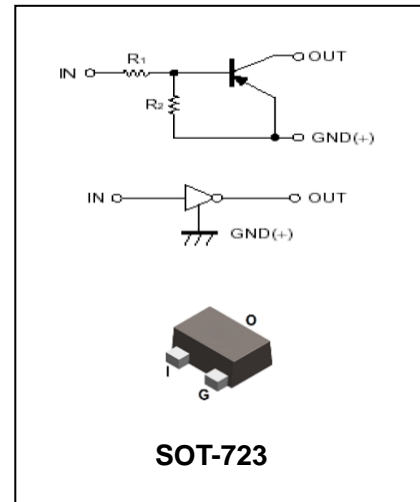


### FEATURES

- 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.



### ORDERING INFORMATION

Type No.	Marking	Package Code
DTA114EM	14	SOT-723
DTA124EM	15	SOT-723
DTA143EM	13	SOT-723
DTA144EM	16	SOT-723

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
$V_{CC}$	Supply Voltage	-50	V
$V_{IN}$	Input Voltage	DTA114EM	+10 to -40
		DTA124EM	+10 to -40
		DTA143EM	+10 to -30
		DTA144EM	+10 to -40
$I_o$	Output Current	DTA114EM	-50
		DTA124EM	-30
		DTA143EM	-100
		DTA144EM	-30
$I_C(\text{Max.})$	Output current ALL	-100	mA
$P_D$	Power Dissipation	100	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient Air	1250	°C/W
$T_j, T_{stg}$	Operating and Storage and Temperature Range	-55 to +150	°C



### 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	$V_{I(on)}$	DTA114EM DTA124EM DTA143EM DTA144EM	-	-1.9	-3	
		$V_o=-0.3V, I_o=-10mA$				
		$V_o=-0.2V, I_o=-5mA$				
		$V_o=-0.3V, I_o=-20mA$ $V_o=-0.3V, I_o=-2mA$				
Output Voltage	$V_{O(on)}$	DTA114EM DTA124EM DTA143EM DTA144EM	-	-0.1	-0.3	V
		$I_o/I_i=-10mA/-0.5mA,$				
Input Current	$I_i$	DTA114EM DTA124EM DTA143EM DTA144EM	-	-	-0.88 -0.36 -1.8 -0.18	mA
		$V_i=-5V$				
Output Current	$I_{O(off)}$	$V_{CC}=-50V, V_i=0V$	-	-	-0.5	$\mu A$
DC Current Gain	$G_i$	DTA114EM DTA124EM DTA143EM DTA144EM	30 56 20 68	-	-	
		$V_o=-5V, I_o=-5mA$				
		$V_o=-5V, I_o=-5mA$				
		$V_o=-5V, I_o=-10mA$ $V_o=-5V, I_o=-5mA$				
Input Resistor	$R_1(R_2)$	DTA114EM DTA124EM DTA143EM DTA144EM	7 15.4 3.29 32.9	10 22 4.7 47	13 28.6 6.11 61.1	k $\Omega$
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

### TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

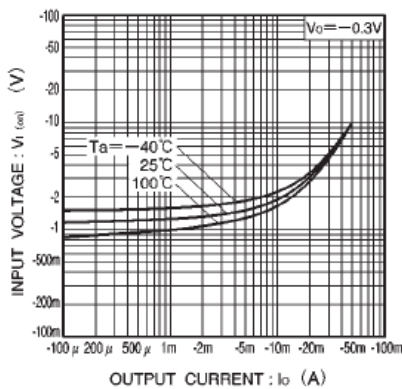


Fig.1 Input voltage vs. output current (ON characteristics)

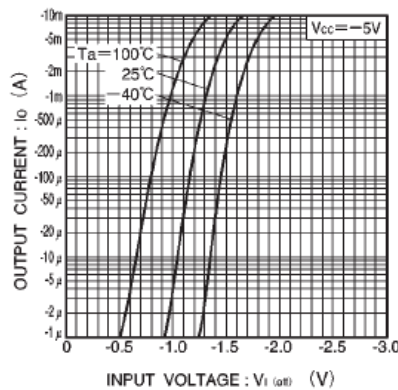


Fig.2 Output current vs. input voltage (OFF characteristics)

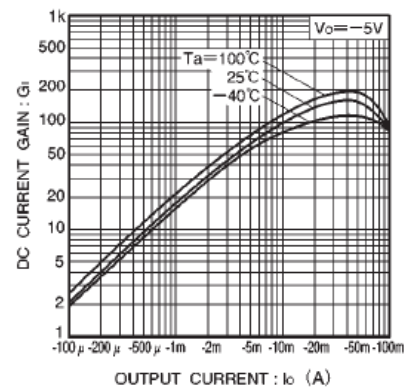


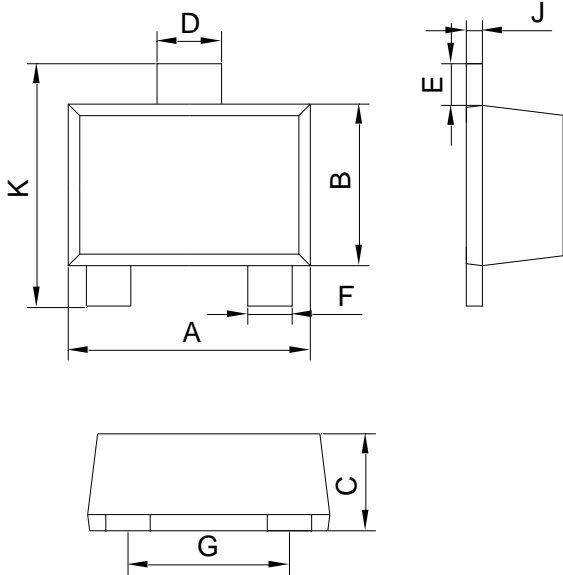
Fig.3 DC current gain vs. output current



### PACKAGE OUTLINE

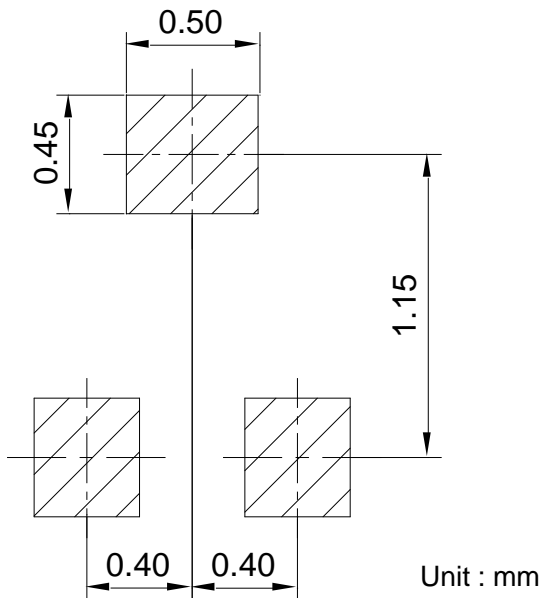
Plastic surface mounted package

SOT-723



SOT-723		
Dim	Min	Max
A	1.10	1.30
B	0.70	0.90
C	0.40	0.54
D	0.22	0.42
E	0.10	0.30
F	0.12	0.32
G	0.70	0.90
J	0.08	0.15
K	1.10	1.30
All Dimensions in mm		

### SOLDERING FOOTPRINT



Unit : mm

### PACKAGE INFORMATION

Device	Package	Shipping
DTA114EM/124EM/143EM/144EM	SOT-723	10000 pcs / Tape & Reel