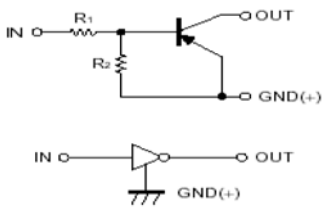
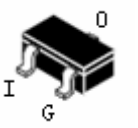
Digital Transistor **DTA(R_1=R_2 SERIES)E**

FEATURES

Lead-free

- Epitaxial planar die construction.
- Complementary NPN types available(DTC)
- Built-in biasing resistors,R_1=R_2
- Also available in lead free version.





SOT-523

APPLICATIONS

- The PNP style digital transistor.

ORDERING INFORMATION

Type No.	Marking	Package Code
DTA114EE	14	SOT-523
DTA143EE	13	SOT-523
DTA124EE	15	SOT-523
DTA144EE	16	SOT-523

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	Parameter		Value	Units
V_{CC}	Supply Voltage		-50	V
V_{IN}	Input Voltage	DTA114EE	+10 to-40	V
		DTA124EE	+10 to -40	
		DTA143EE	+10 to -30	
		DTA144EE	+10 to -40	
I_O	Output Current	DTA114EE	-50	mA
		DTA124EE	-30	
		DTA143EE	-100	
		DTA144EE	-30	
I_C(Max.)	Output current	ALL	-100	mA
P_D	Power Dissipation		150	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient Air		833	℃/W
T_j,T_{stg}	Operating and Storage and Temperature Range		-55 to +150	℃

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ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter		Symbol	Test conditions	MIN	TYP	MAX	UNIT
Input Voltage		$V_{I(off)}$	V_{CC}=-5V,I_O=-100μA	-0.5	-1.1	-	V
Input Voltage	DTA143EE DTA114EE DTA144EE DTA124EE	$V_{I(on)}$	V_O=-0.3V,I_O=-20mA V_O=-0.3V,I_O=-10mA V_O=-0.3V,I_O=-2mA V_O=-0.3V,I_O=-5mA	-	-1.9	-3	
Output Voltage	DTA143EE DTA114EE DTA144EE DTA124EE	$V_{O(on)}$	I_o/I_I=-10mA/-0.5mA,	-	-0.1	-0.3	V
Input Current	DTA143EE DTA114EE DTA144EE DTA124EE	I_I	V_I=-5V	-	-	-1.8 -0.88 -0.18 -0.36	mA
Output Current		$I_{O(off)}$	V_{CC}=-50V,V_I=0V	-	-	-0.5	μA
DC Current Gain	DTA143ECA DTA114ECA DTA144ECA DTA124ECA	G_I	V_O=-5V,I_O=-10mA V_O=-5V,I_O=-5mA V_O=-5V,I_O=-5mA V_O=-5V,I_O=-5mA	20 30 68 56	-	-	
Input Resistor	DTA143ECA DTA114ECA DTA144ECA DTA124ECA	R_1(R_2)			4.7 10 47 22		kΩ
Input Resistor (R_1) Tolerance		ΔR_1	-	-30		+30	%
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℃ unless otherwise specified

Digital Transistor **DTA(R_1=R_2 SERIES)E**

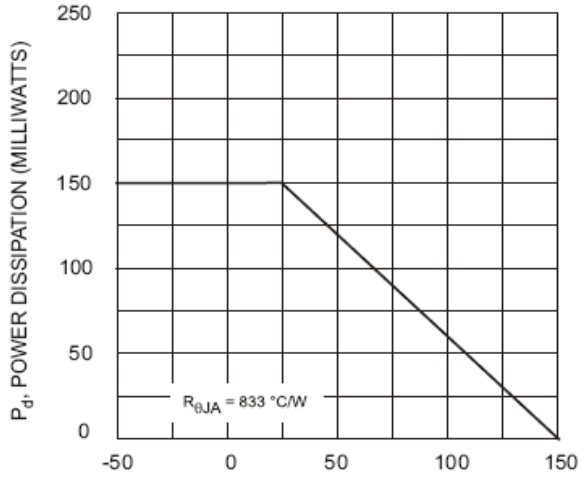

Fig. 1 Derating Curve

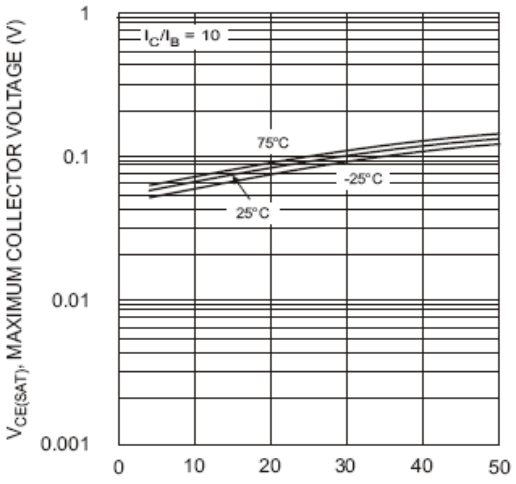

Fig. 2 $V_{CE(SAT)}$ vs. I_C

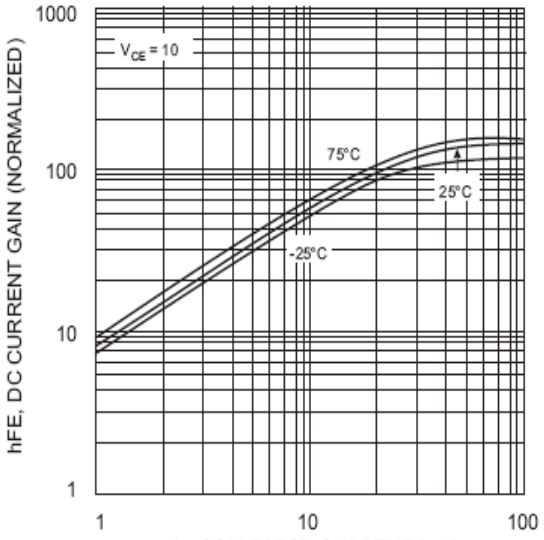

Fig. 3 DC CURRENT GAIN

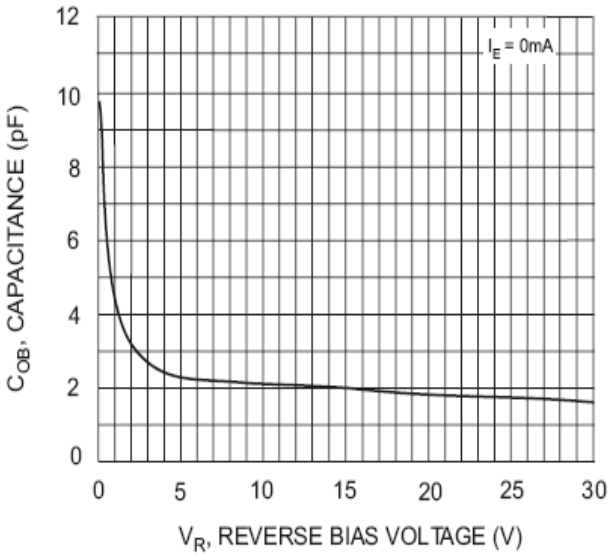

Fig. 4 Output Capacitance

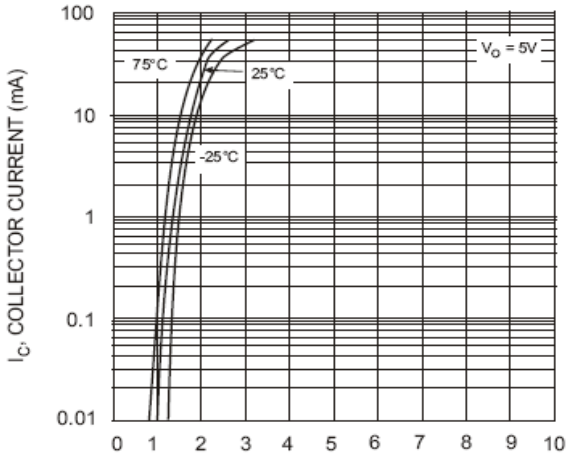

Fig. 5 Collector Current Vs. Input Voltage

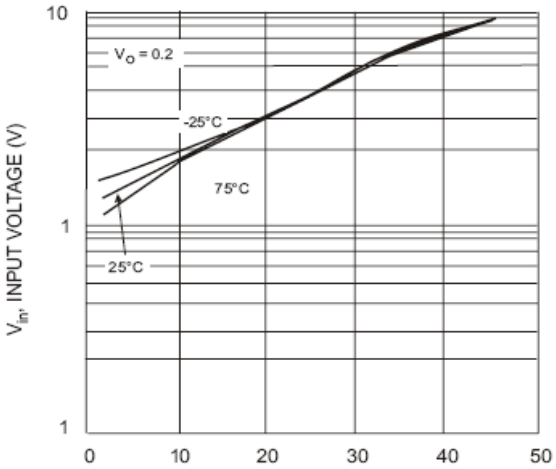

Fig. 6 Input Voltage vs. Collector Current

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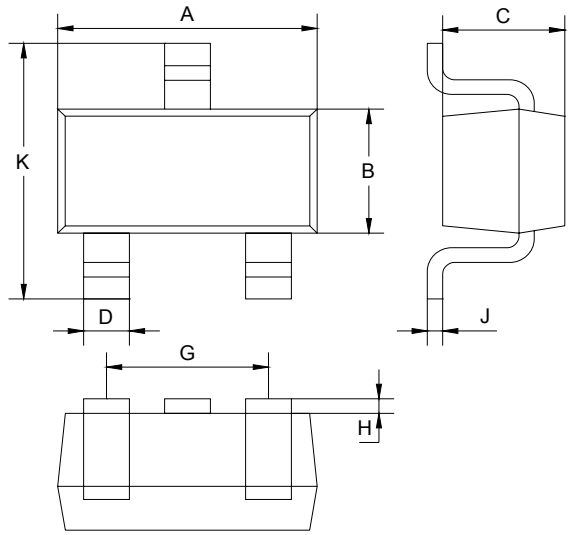
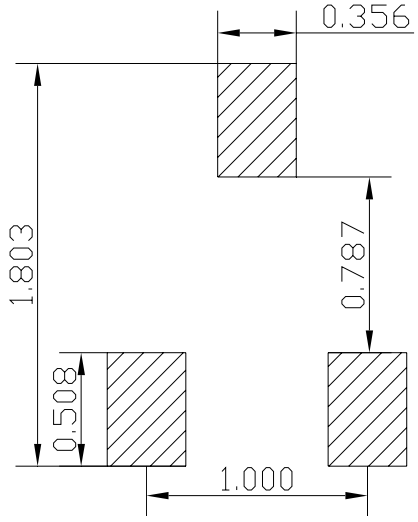
PACKAGE OUTLINE

Plastic surface mounted package SOT-523



SOT-523		
Dim	Min	Max
A	1.5	1.7
B	0.75	0.85
C	0.6	0.8
D	0.15	0.3
G	0.9	1.1
H	0.02	0.1
J	0.1Typical	
K	1.45	1.75
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
DTA114EE/124EE/143EE/144EE	SOT-523	3000/Tape&Reel