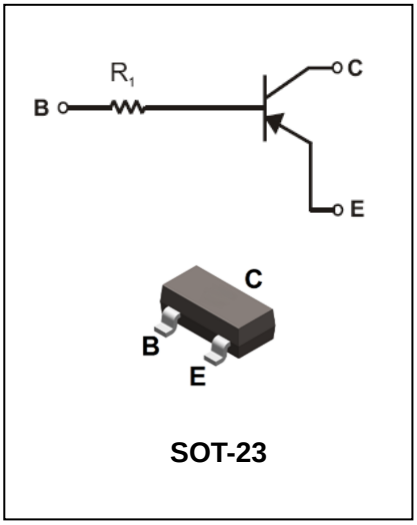
DTA(R1-only SERIES)CA

Digital Transistor(PNP)

FEATURES

- Epitaxial planar die construction
- Complementary NPN types available(DTC)
- Built-in biasing resistor, R_1 only
- Also available in lead free version



SOT-23

APPLICATIONS

- The PNP style digital transistor

ORDERING INFORMATION

Type No.	Marking	Package Code
DTA114TCA	94	SOT-23
DTA143TCA	93	SOT-23
DTA144TCA	96	SOT-23

MAXIMUM RATING @ T_A = 25℃ unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-50	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C(Max.)	Collector Current	-100	mA
P_D	Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient Air *1	409	℃/W
$R_{\theta JC}$	Thermal Resistance, Junction to Case *1	225	℃/W
$R_{\theta JL}$	Thermal Resistance, Junction to Lead *1	197	℃/W
T_J, T_{STG}	Operating and Storage and Temperature Range	-55 to +150	℃

Note 1: The data tested by surface mounted on a 15mm * 15mm * 1mm FR4-epoxy P.C.B

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ELECTRICAL CHARACTERISTICS @ T_A = 25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-Base breakdown Voltage	BV_{CBO}	I_C=-50μA	-50			V
Collector-Emitter breakdown Voltage	BV_{CEO}	I_C=-1mA	-50			V
Emitter-Base breakdown Voltage	BV_{EBO}	I_E=-50μA	-5			V
Collector cutoff Current	I_{CBO}	V_{CB}=-50V	-	-	-0.5	μA
Emitter cutoff Current	I_{EBO}	V_{EB}=-4V	-	-	-0.5	μA
Collector-Emitter saturation voltage DTA114TCA DTA143TCA DTA144TCA	$V_{CE(sat)}$	 I_C/I_B=-1mA/-0.1mA I_C/I_B=-2.5mA/-0.25mA I_C/I_B=-2.5mA/-0.25mA			-0.3	V
DC Current Gain	h_{FE}	I_C=-1mA,V_{CE}=-5V	100	250	600	
Input Resistor(R_1) DTA114TCA DTA143TCA DTA144TCA	R_1		7 3.19 31.9	10 4.7 47	13 6.11 61.1	KΩ
Input Resistor(R_1)Tolerance	ΔR_1		-30		+30	%
Gain-Bandwidth Product	f_T	V_{CE}=-10V,I_E=-5mA, f=100MHz	-	250	-	MHz

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

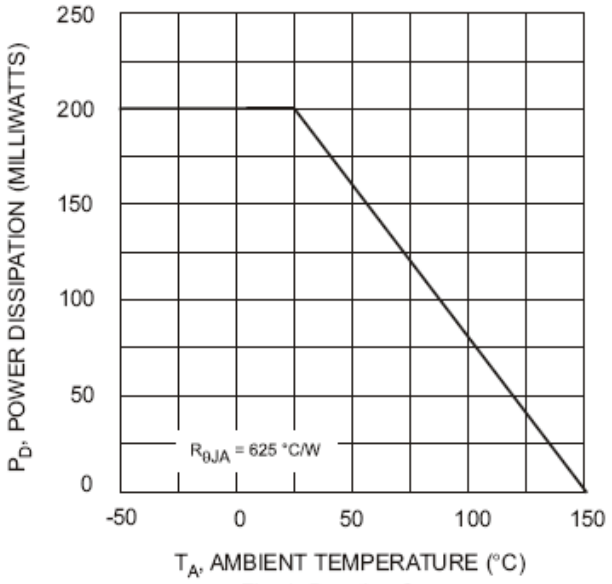

Fig. 1 Derating Curve

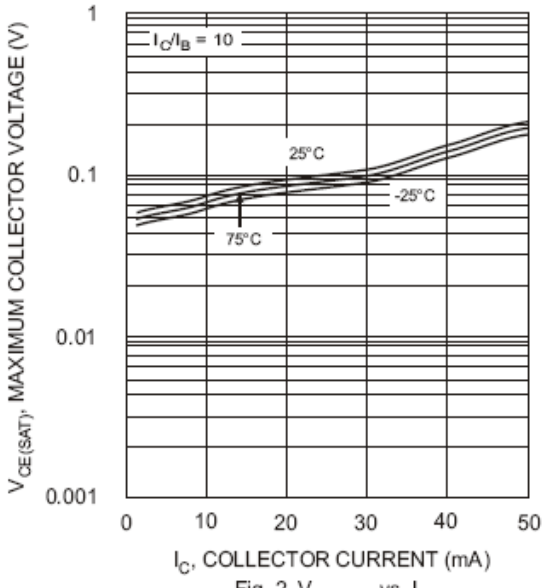

Fig. 2 $V_{CE(SAT)}$ vs. I_C

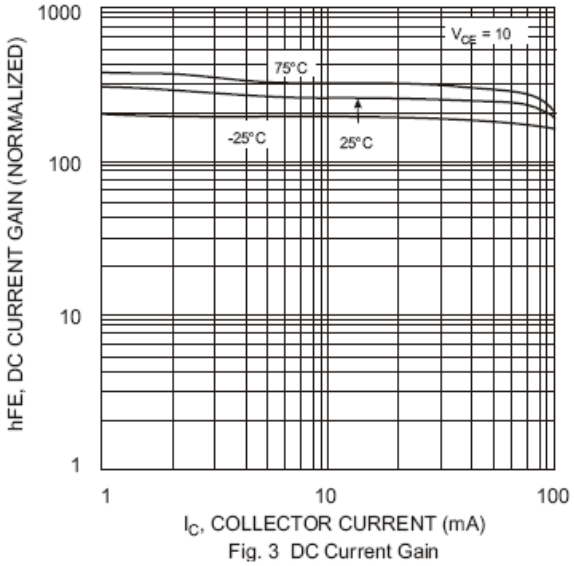

Fig. 3 DC Current Gain

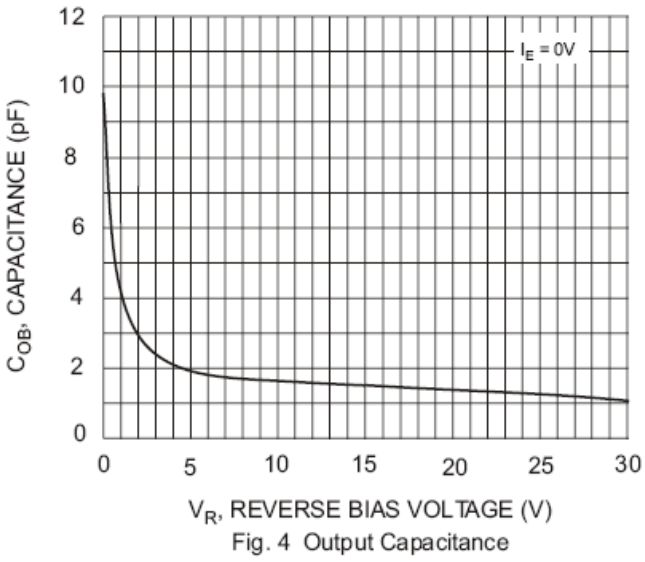

Fig. 4 Output Capacitance

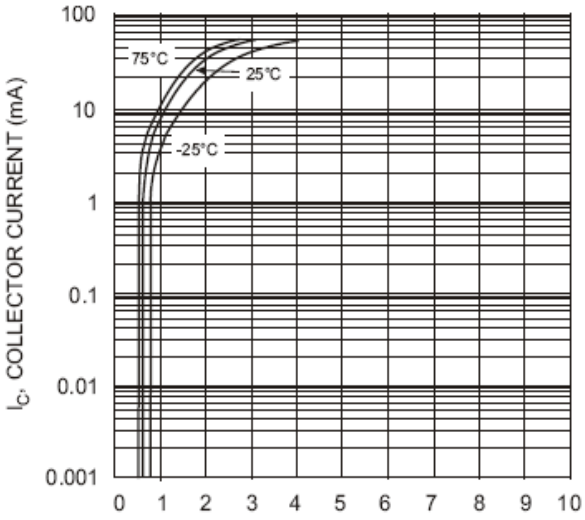

Fig. 5 Collector Current Vs. Input Voltage

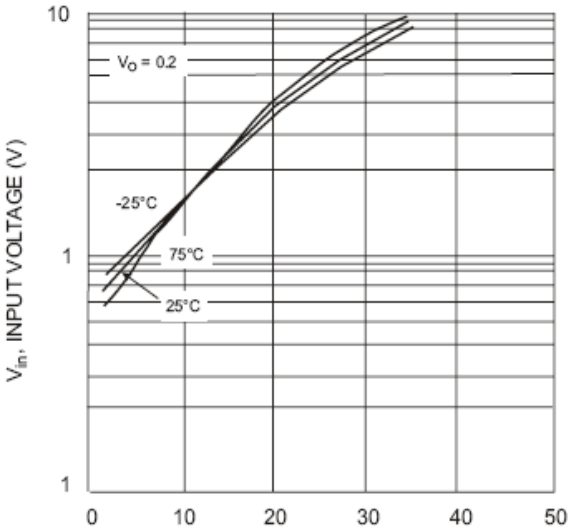

Fig. 6 Input Voltage vs. Collector Current

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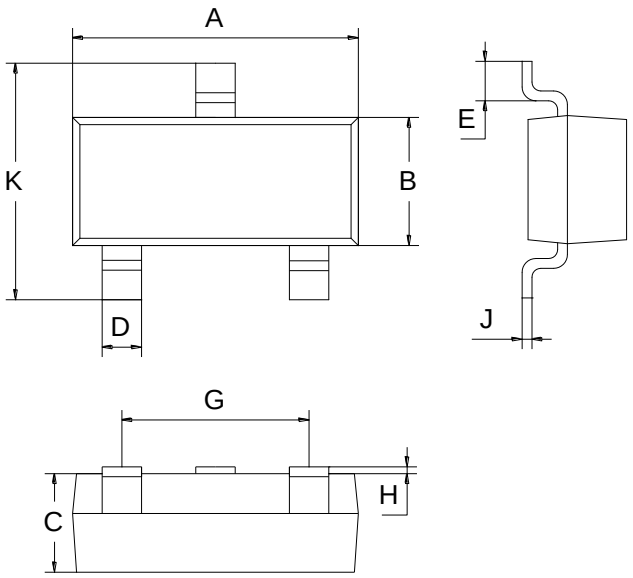
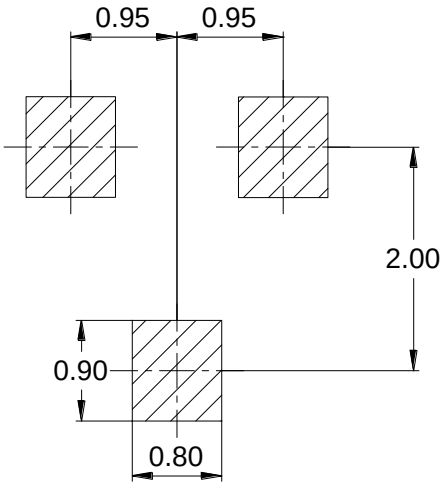
PACKAGE OUTLINE

Plastic surface mounted package SOT-23



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit: mm

PACKAGE INFORMATION

Device	Package	Shipping
DTA114TCA/143TCA/144TCA	SOT-23	3000 pcs / Tape & Reel