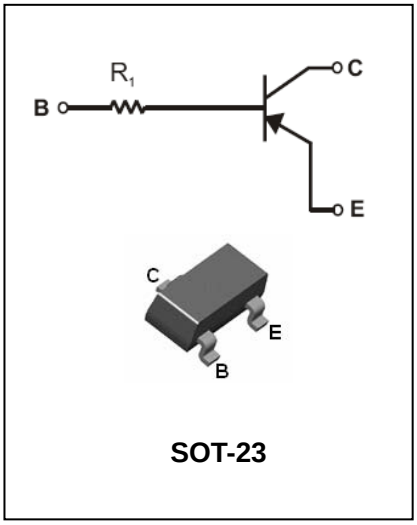
Digital Transistor DTA(R_1-only SERIES)CA

FEATURES

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

Lead-free



SOT-23

APPLICATIONS

- The PNP style digital transistor.

ORDERING INFORMATION

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

MAXIMUM RATING @ Ta=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	625	℃/W
T_j,T_{stg}	Operating and Storage and Temperature Range	-55 to +150	℃

ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Digital Transistor **DTA(R_1-only SERIES)CA**

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 DTA143TCA DTA114TCA DTA144TCA	$V_{CE(sat)}$	I_C/I_B=-2.5mA/-0.25mA I_C/I_B=-1mA/-0.1mA 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) DTA143TCA DTA114TCA DTA144TCA	R_1			4.7 10 47		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

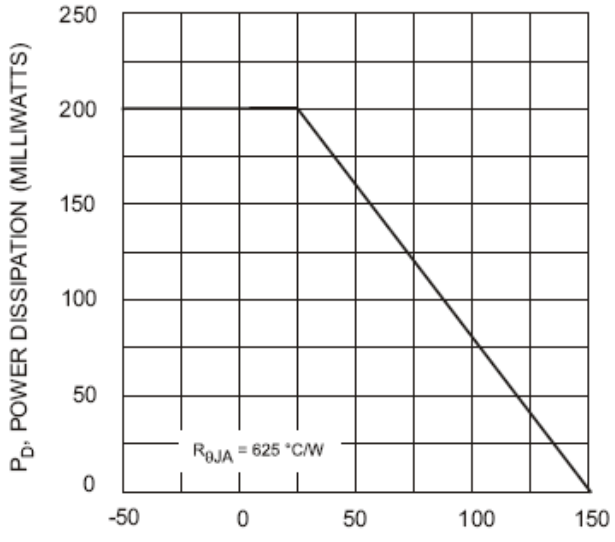


Fig. 1 Derating Curve

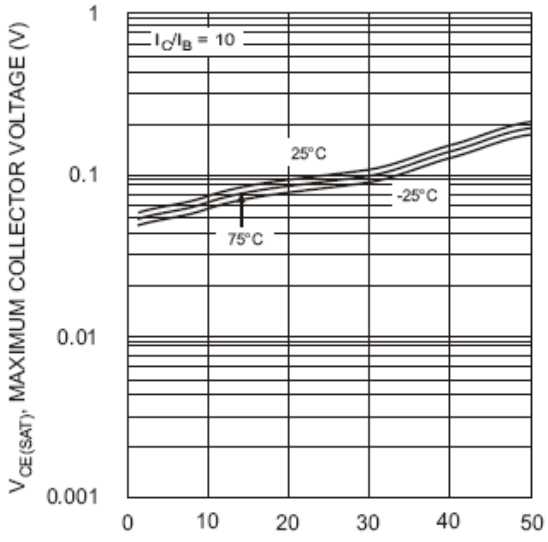


Fig. 2 $V_{CE(SAT)}$ vs. I_C

Digital Transistor **DTA(R_1-only SERIES)CA**

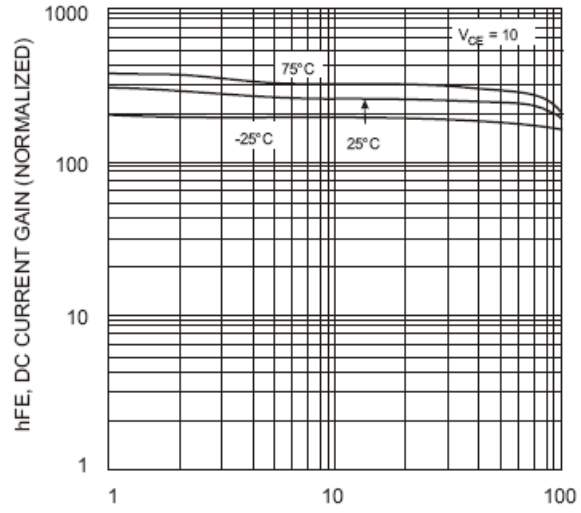


Fig. 3 DC Current Gain

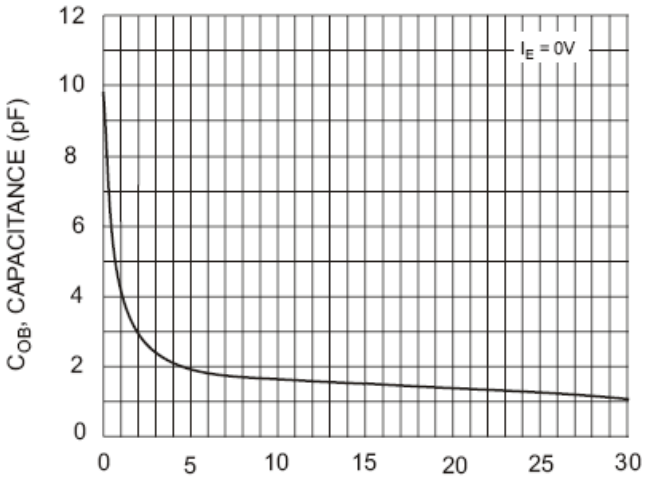


Fig. 4 Output Capacitance

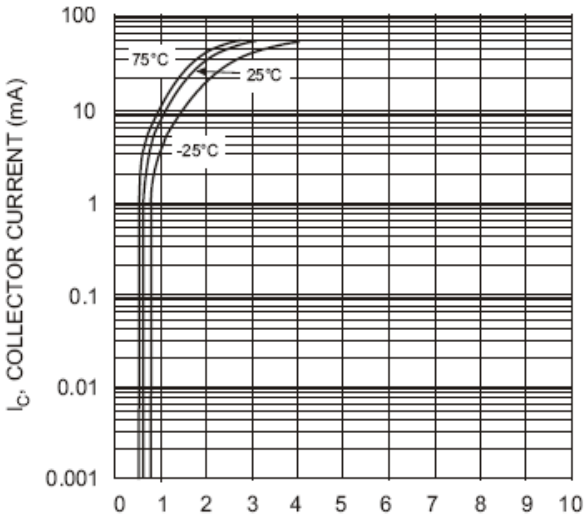


Fig. 5 Collector Current Vs. Input Voltage

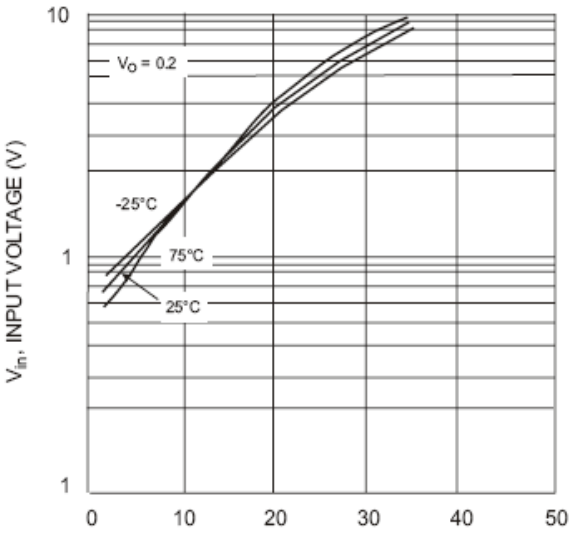
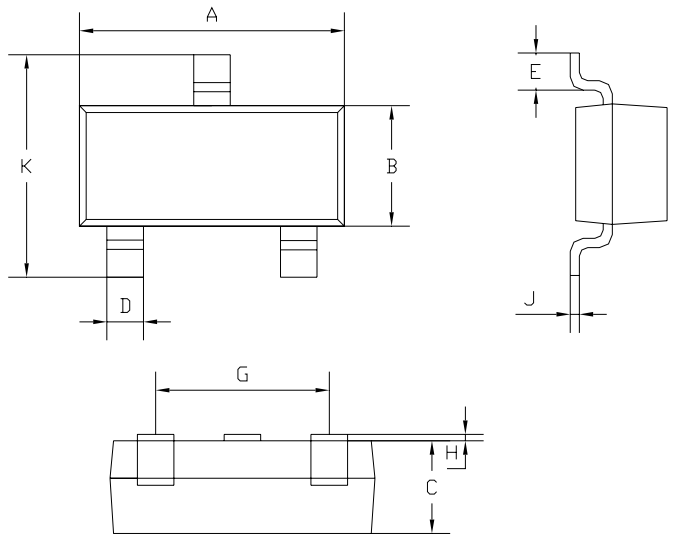


Fig. 6 Input Voltage vs. Collector Current

Digital Transistor **DTA(R_1-only SERIES)CA**

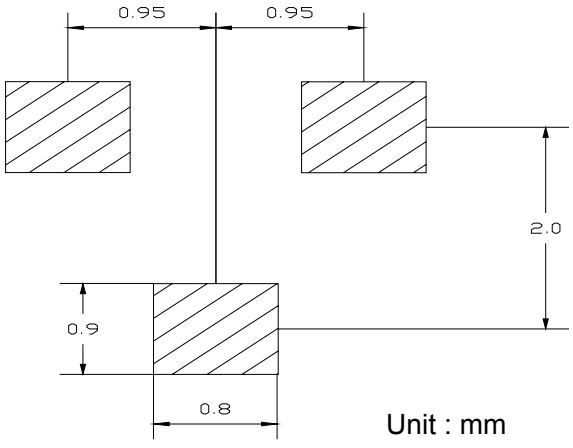
PACKAGE OUTLINE

Plastic surface mounted package SOT-23



SOT-23		
Dim	Min	Max
A	2.85	2.95
B	1.25	1.35
C	1.0Typical	
D	0.37	0.43
E	0.35	0.48
G	1.85	1.95
H	0.02	0.1
J	0.1Typical	
K	2.35	2.45
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
DTA143TCA/114TCA/144TCA	SOT-23	3000/Tape&Reel