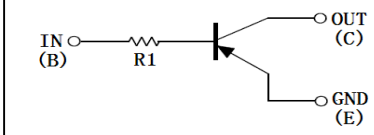
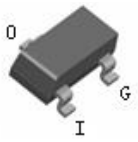
Digital Transistor

DTA(R_1-only SERIES)E

FEATURES

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





SOT-523

APPLICATIONS

- The PNP style digital transistor

ORDERING INFORMATION

Type No.	Marking	Package Code
DTA114TE	94	SOT-523
DTA143TE	93	SOT-523
DTA144TE	96	SOT-523

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	150	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient Air *1	306	℃/W
$R_{\theta JC}$	Thermal Resistance, Junction to Case *1	152	℃/W
$R_{\theta JL}$	Thermal Resistance, Junction to Lead *1	61	℃/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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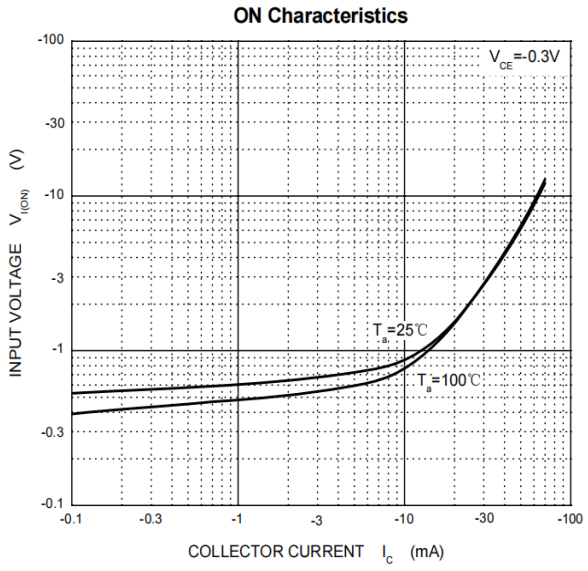
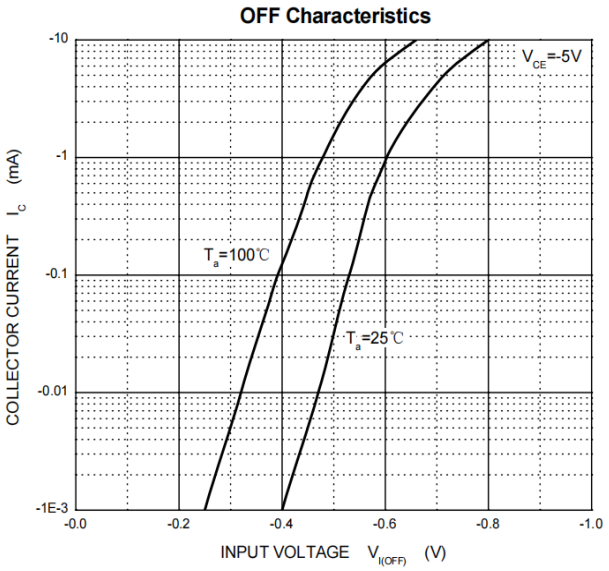
ELECTRICAL CHARACTERISTICS @ T_A = 25℃ unless otherwise specified

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 DTA114TE DTA143TE DTA144TE	$V_{CE(sat)}$	I_C/I_B=-10mA/-1mA I_C/I_B=-5mA/-0.25mA I_C/I_B=-5mA/-0.5mA			-0.3	V
DC Current Gain	h_{FE}	I_C=-1mA,V_{CE}=-5V	100	250	600	
Input Resistor(R_1) DTA114TE DTA143TE DTA144TE	R_1		7 3.29 32.9	10 4.7 47	13 6.11 61.1	KΩ
Input Resistor(R_1)Tolerance	ΔR_1		-30		+30	%
Transition frequency	f_T	V_{CE}=-10V,I_E=5mA, f=100MHz	-	250	-	MHz

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified





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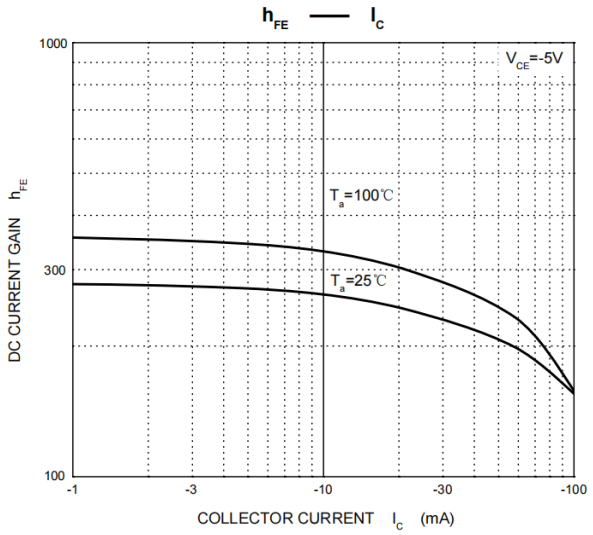
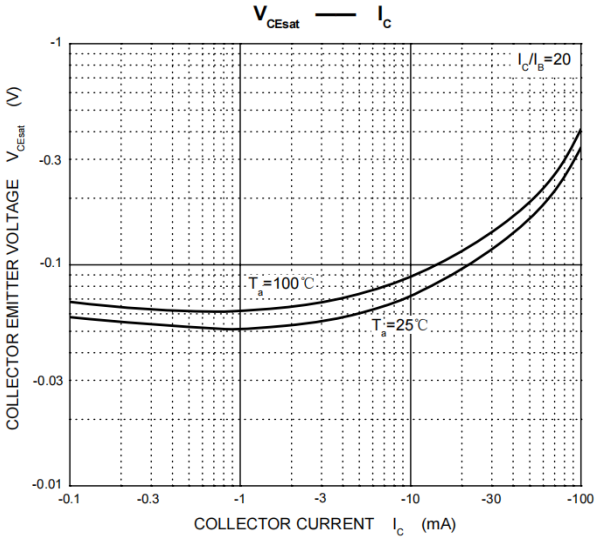
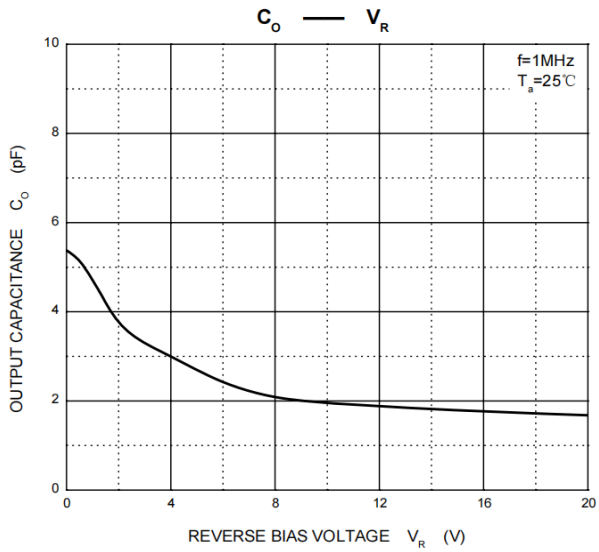
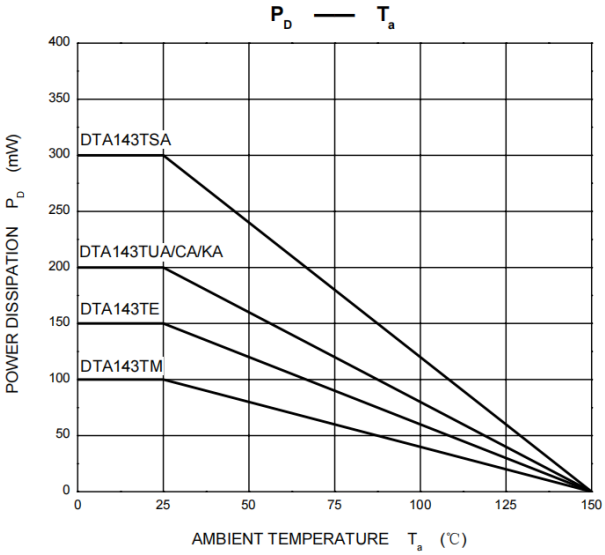




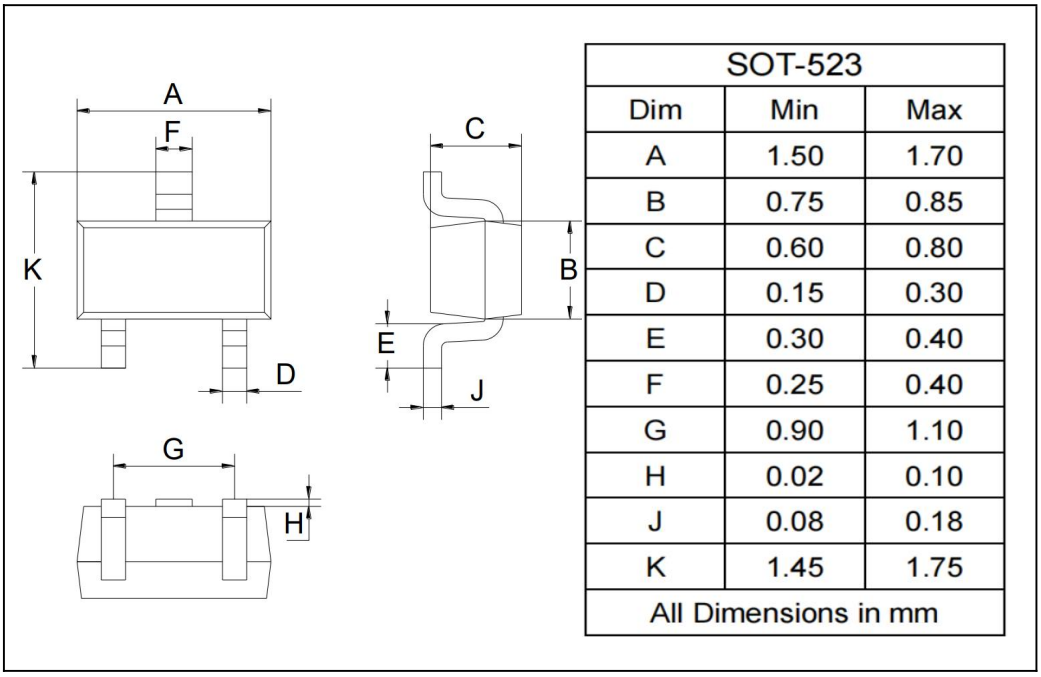




Digital Transistor DTA(R1-only SERIES)E

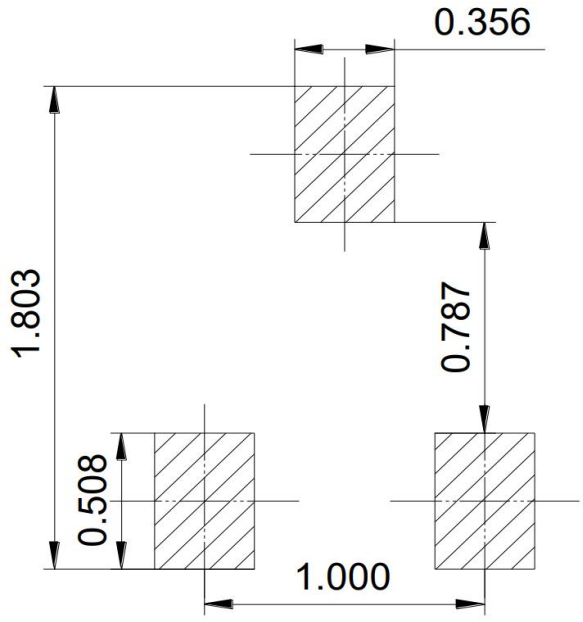
PACKAGE OUTLINE

Plastic surface mounted package SOT-523



SOT-523		
Dim	Min	Max
A	1.50	1.70
B	0.75	0.85
C	0.60	0.80
D	0.15	0.30
E	0.30	0.40
F	0.25	0.40
G	0.90	1.10
H	0.02	0.10
J	0.08	0.18
K	1.45	1.75
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit: mm

PACKAGE INFORMATION

Device	Package	Shipping
DTA114TE/143TE/144TE	SOT-523	3000 pcs / Tape & Reel