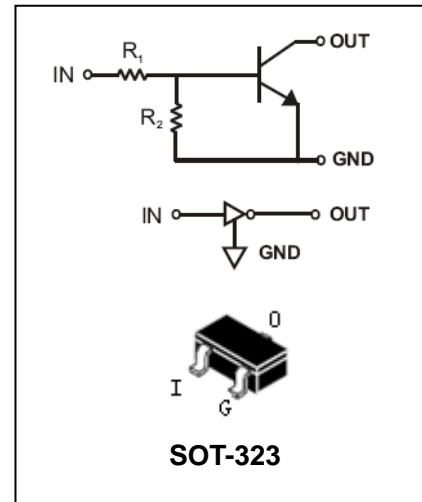


Digital Transistor

DTC(R₁≠R₂ SERIES)UA

FEATURES

- Epitaxial planar die construction.
- Complementary PNP types available(DTA).
- Built-in biasing resistors, R₁≠R₂
- Also available in lead free version.



APPLICATIONS

- The NPN style digital transistor.

ORDERING INFORMATION

Type No.	Marking	Package Code
DTC113ZUA	E21	SOT-323
DTC114WUA	84	SOT-323
DTC114YUA	64	SOT-323
DTC123JUA	E42	SOT-323
DTC123YUA	62	SOT-323
DTC143XUA	43•	SOT-323
DTC143ZUA	E23	SOT-323

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V _{CC}	Supply Voltage	50	V
V _{IN}	Input Voltage	DTC113ZUA -5 to+10 DTC114WUA -10 to+30 DTC114YUA -6 to +40 DTC123JUA -5 to+12 DTC123YUA -5 to+12 DTC143XUA -7 to+20 DTC143ZUA -5 to+30	V
I _o	Output Current	DTC113ZUA 100 DTC114WUA 100 DTC114YUA 70 DTC123JUA 100 DTC123YUA 100 DTC143XUA 100 DTC143ZUA 100	mA
I _c (Max.)	Output current	ALL 100	mA

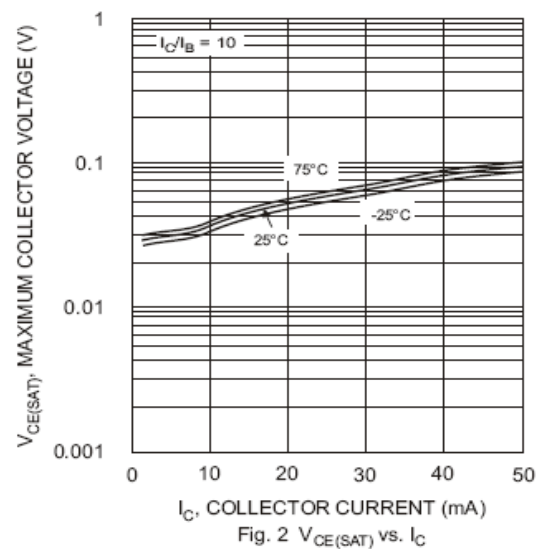
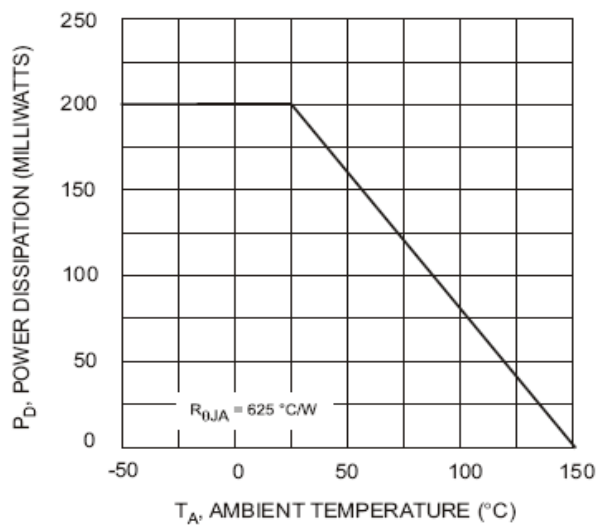
Symbol	Parameter	Value	Units
P_D	Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient Air	625	$^{\circ}C/W$
T_j, T_{stg}	Operating and Storage and Temperature Range	-55 to +150	$^{\circ}C$

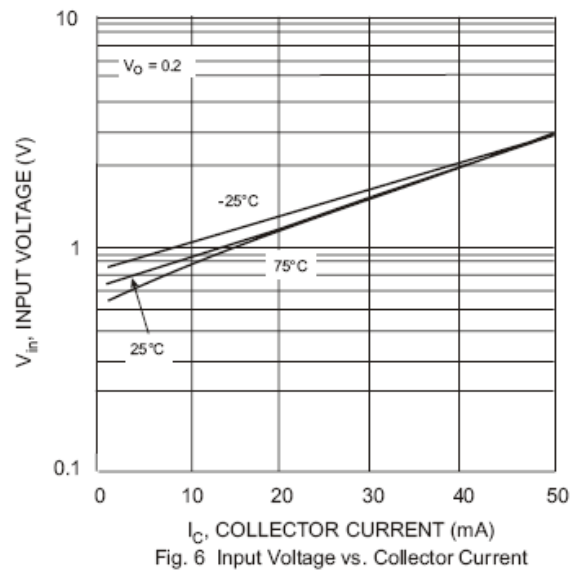
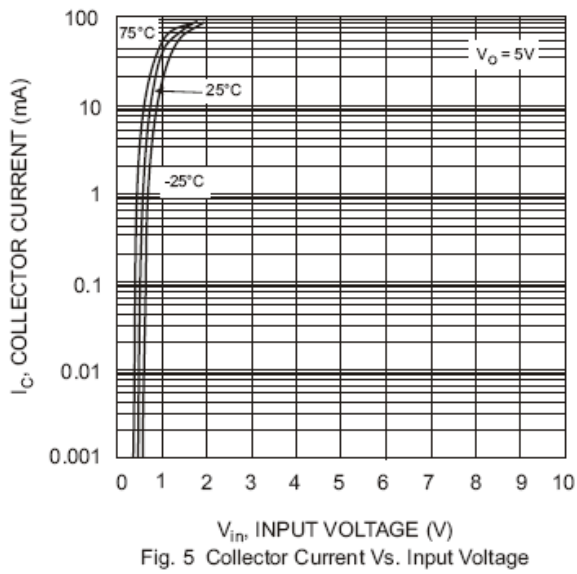
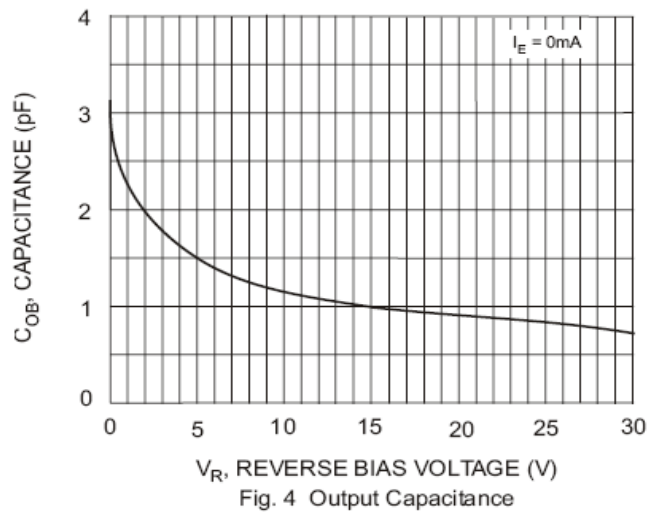
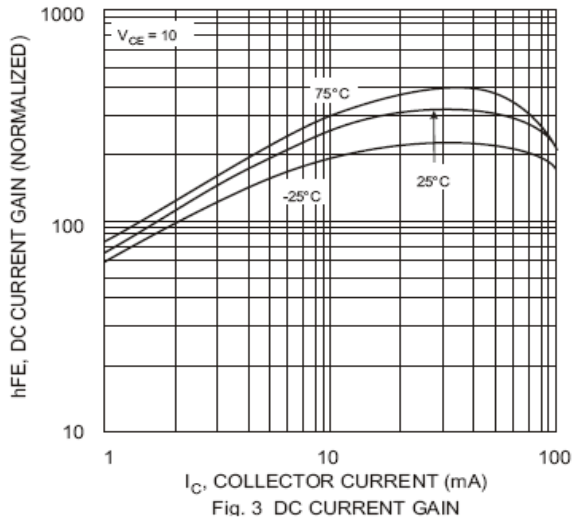
ELECTRICAL CHARACTERISTICS @ $T_a=25^{\circ}C$ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT	
Input Voltage	DTC113ZUA DTC114WUA DTC114YUA DTC123JUA DTC123YUA DTC143XUA DTC143ZUA	$V_{I(off)}$	$V_{CC}=5V, I_O=100\mu A$	0.3 0.8 0.3 0.5 0.3 0.3 0.5	-	-	V
Input Voltage	DTC113ZUA DTC114WUA DTC114YUA DTC123JUA DTC123YUA DTC143XUA DTC143ZUA	$V_{I(on)}$	$V_O=0.3V, I_O=20mA$ $V_O=0.3V, I_O=2mA$ $V_O=0.3V, I_O=1mA$ $V_O=0.3V, I_O=5mA$ $V_O=0.3V, I_O=20mA$ $V_O=0.3V, I_O=20mA$ $V_O=0.3V, I_O=5mA$	-	-	3.0 3.0 1.4 1.1 3.0 2.5 1.3	V
Output Voltage	DTC123JUA DTC143ZUA DTC114YUA ALL Others	$V_{O(on)}$	$I_O/I_I=5mA/0.25mA$ $I_O/I_I=10mA/0.5mA$	-	0.1	0.3	V
Input Current	DTC113ZUA DTC114WUA DTC114YUA DTC123JUA DTC123YUA DTC143XUA DTC143ZUA	I_I	$V_I=5V$	-	-	7.2 0.88 0.88 3.6 3.8 1.8 1.8	mA
Output Current		$I_{O(off)}$	$V_{CC}=50V, V_I=0V$	-	-	0.5	μA
DC Current Gain	DTC113ZUA DTC114WUA DTC114YUA DTC123JUA DTC123YUA	G_I	$V_O=5V, I_O=10mA$	33 24 68 80 33	-	-	

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
DTC143XUA DTC143ZUA	G_1	$V_O=5V, I_O=10mA$	30 80			
Input Resistor DTC113ZUA DTC114WUA DTC114YUA DTC123JUA DTC123YUA DTC143XUA DTC143ZUA	$R_1(R_2)$			1(10) 10(4.7) 10(47) 2.2(47) 2.2(10) 4.7(10) 4.7(47)		k Ω
Input Resistor (R_1) Tolerance	ΔR_1	-	-30		+30	%
Resistance Ratio Tolerance	$\Delta R_2/R_1$	-	-20		+20	%
Gain-Bandwidth Product	f_T	$V_{CE}=10V, I_E=5mA,$ $f=100MHz$	-	250	-	MHz

TYPICAL CHARACTERISTICS @ $T_a=25^\circ C$ unless otherwise specified

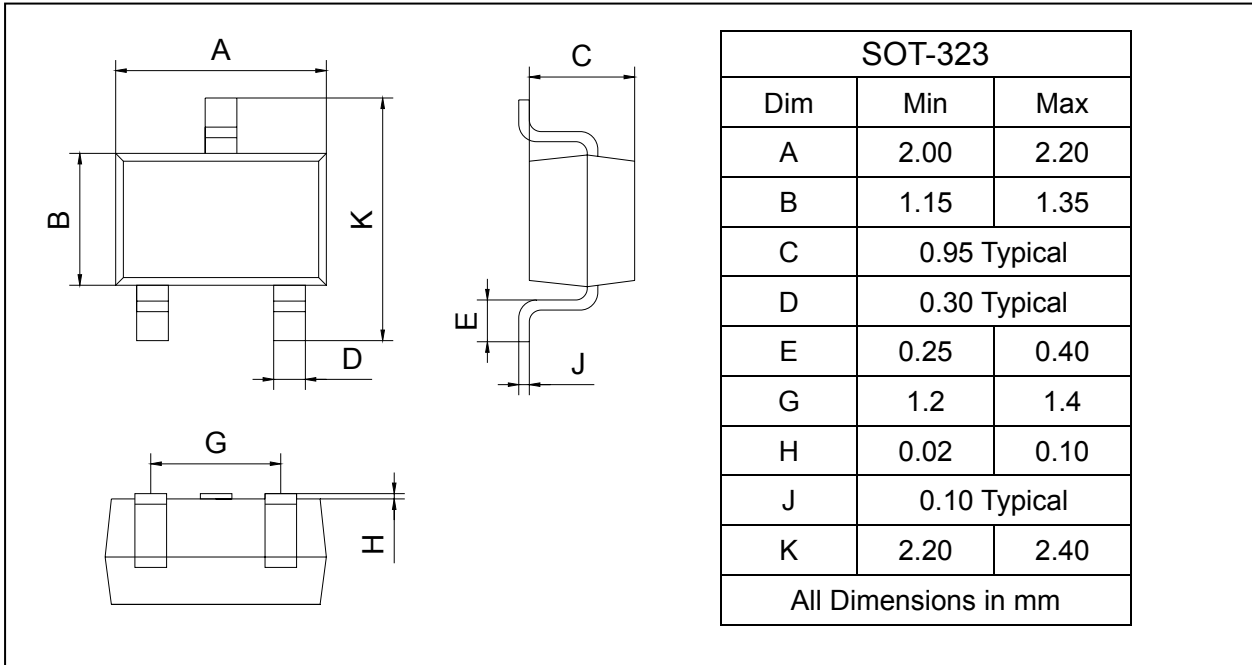




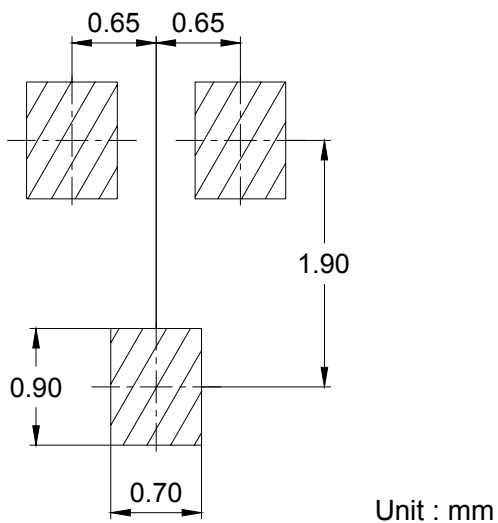
PACKAGE OUTLINE

Plastic surface mounted package

SOT-323



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
DTCxxxxUA	SOT-323	3000/Tape&Reel