

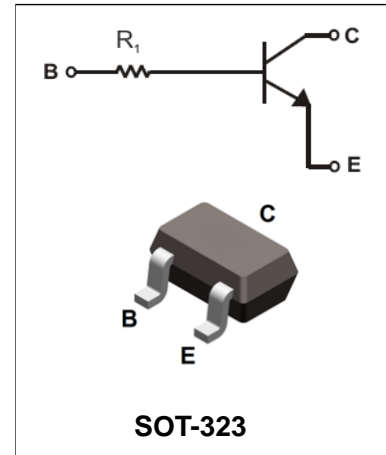


FEATURES

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

APPLICATIONS

- The NPN style digital transistor



ORDERING INFORMATION

Type No.	Marking	Package Code
DTC143TUA	43	SOT-323
DTC114TUA	04	SOT-323
DTC144TUA	06	SOT-323

MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

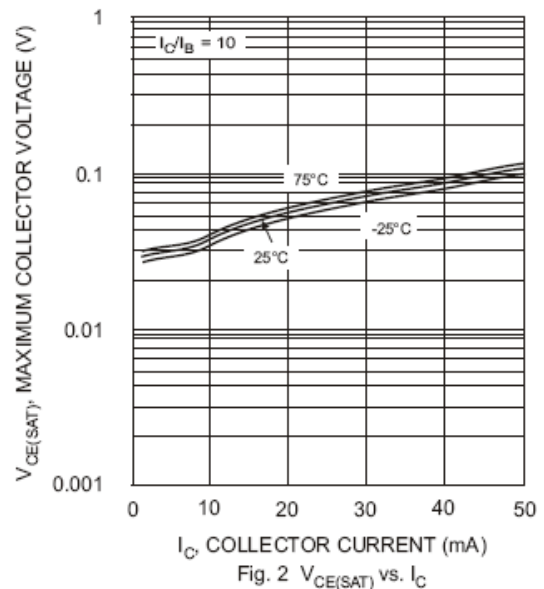
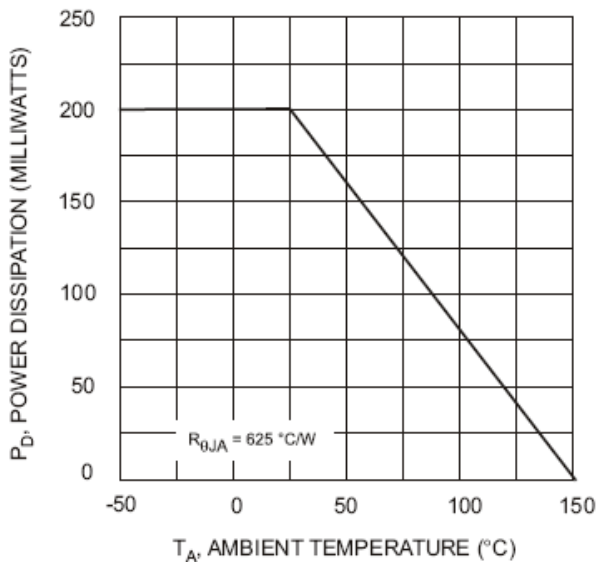
Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
$I_C(\text{Max.})$	Collector Current	100	mA
P_D	Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient Air	625	$^\circ\text{C}/\text{W}$
T_J, T_{STG}	Operating and Storage and Temperature Range	-55 to +150	$^\circ\text{C}$



ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-Base breakdown Voltage	BV_{CBO}	$I_C=50\mu A$	50			V
Collector-Emitter breakdown Voltage	BV_{CEO}	$I_C=1mA$	50			V
Emitter-Base breakdown Voltage	BV_{EBO}	$I_E=50\mu A$	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 DTC143TUA DTC114TUA DTC144TUA	$V_{CE(sat)}$	$I_C/I_B=2.5mA/0.25mA$ $I_C/I_B=1mA/0.1mA$ $I_C/I_B=2.5mA/0.25mA$			0.3	V
DC Current Gain	h_{FE}	$I_C=1mA, V_{CE}=5V$	100	250	600	
Input Resistor(R_1) DTC143TUA DTC114TUA DTC144TUA	R_1			4.7 10 47		k Ω
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°C unless otherwise specified



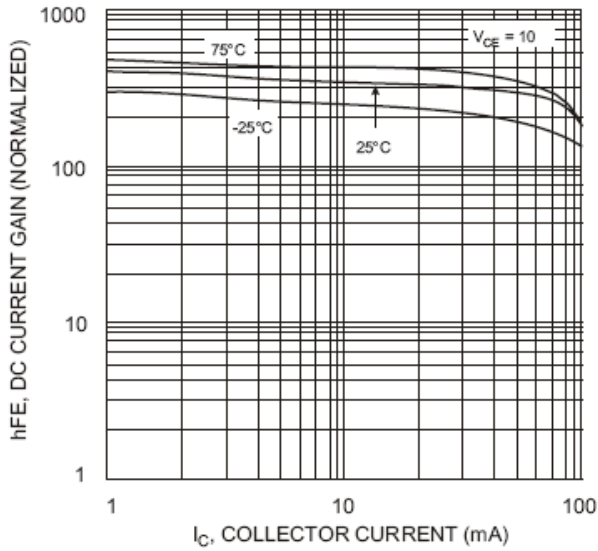


Fig. 3 DC Current Gain

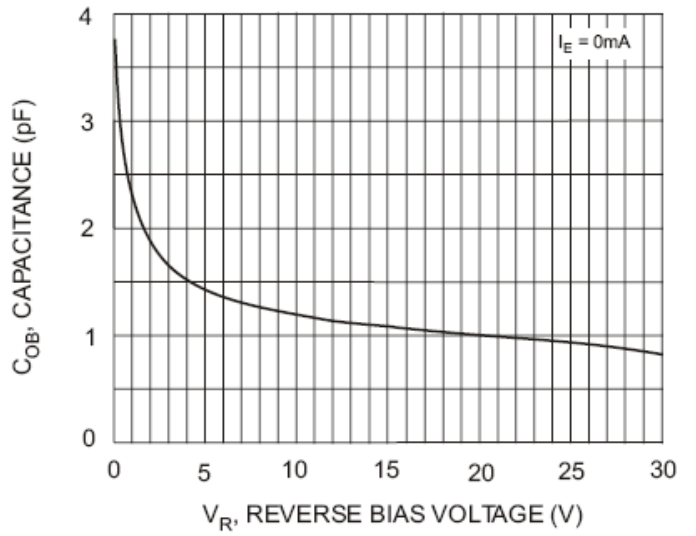


Fig. 4 Output Capacitance

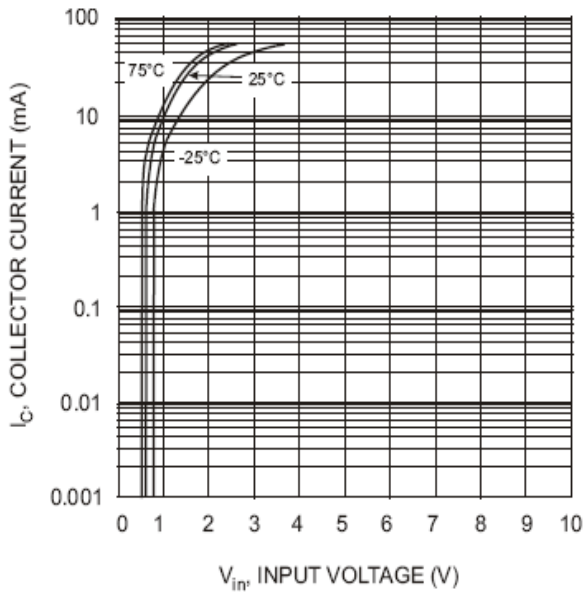


Fig. 5 Collector Current Vs. Input Voltage

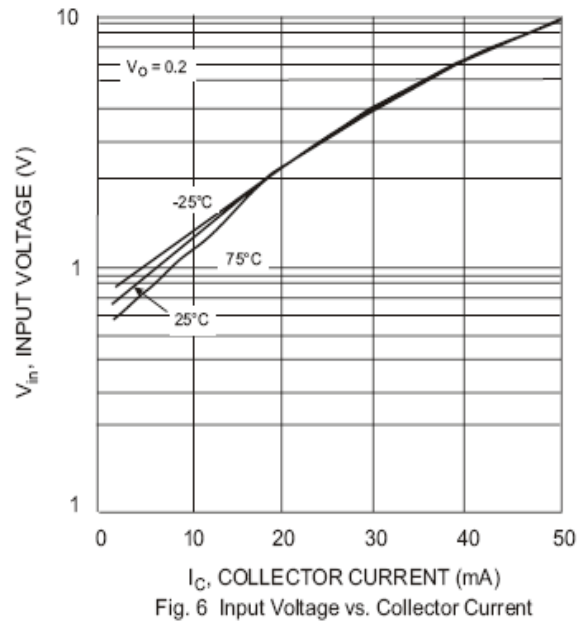


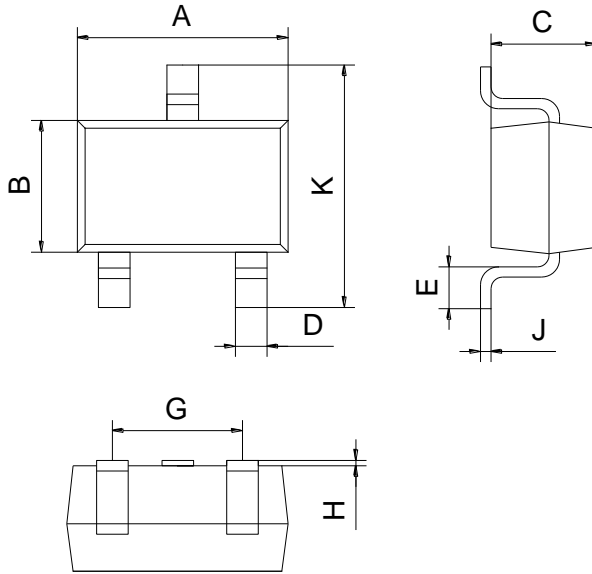
Fig. 6 Input Voltage vs. Collector Current



PACKAGE OUTLINE

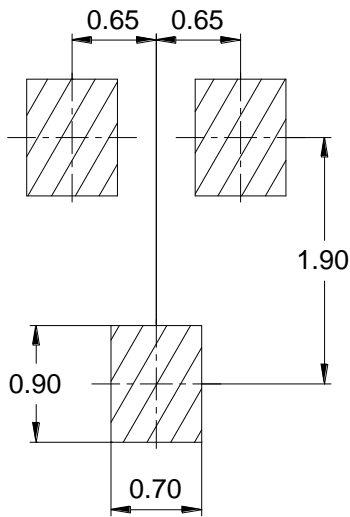
Plastic surface mounted package

SOT-323



SOT-323		
Dim	Min	Max
A	2.00	2.20
B	1.15	1.35
C	0.90	1.10
D	0.15	0.35
E	0.25	0.40
G	1.20	1.40
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit: mm

PACKAGE INFORMATION

Device	Package	Shipping
DTCXXXTUA	SOT-323	3000 pcs / Tape & Reel