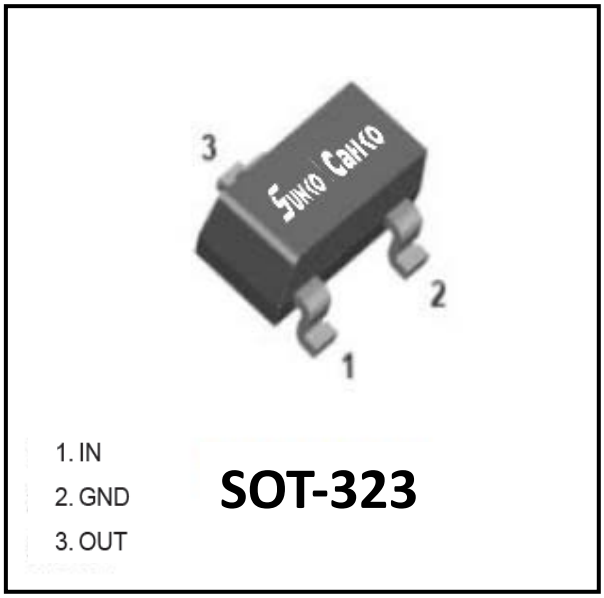
Digital Transistors (Built-in Resistors)



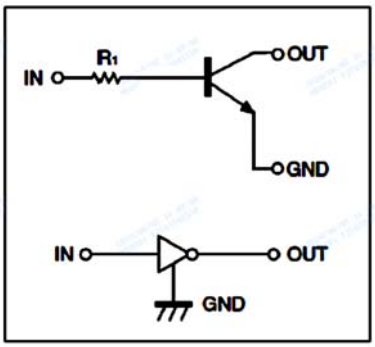
Features

- ●Epoxy meets UL-94 V-0 flammability rating
- ●Moisture Sensitivity Level 1
- ●Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors
- ●Surface mount package ideally Suited for Automatic Insertion
- ●NPN

Mechanical Data

- **Package:** SOT-323
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** 04

■Equivalent circuit



■Maximum Ratings (Ta=25℃ Unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	VALUE
Collector-Base Voltage	VCBO	V		50
Collector-Emitter Voltage	VCEO	V		50
Emitter-Base Voltage	VEBO	V		5
Collector Current	IC	mA		100
Power Dissipation	PD	mW		200
Junction Temperature	Tj	℃		150
Storage Temperature	TSTG	℃		-55 to +150

DTC114TUA

■Electrical Characteristics (Ta=25℃ unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	MIN	TYP	MAX
Collector-Base Breakdown Voltage	VCBO	V	IC=50uA	50		
Collector-Emitter Breakdown Voltage	VCEO	V	IC=1mA	50		
Emitter-Base Breakdown Voltage	VEBO	V	IE=50uA	5		
Collector Cut-off Current	ICBO	uA	VCB=50V			0.5
Emitter Cut-off Current	IEBO	uA	VEB=4V			0.5
DC current gain	hFE		VCE=5V, IC =1mA	100		600
Input resistance	R_1	kΩ		7	10	13
Collector-Emitter Saturation Voltage	VCE(sat)	V	IC =10mA,IB=1mA			0.3
Transition frequency	fT	MHz	VCE=10V,IE=-5mA,f=100MHz		250	

■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
DTC114TUA	F2	Approximate 0.005	3000	30000	120000	7” reel

■ Characteristics (Typical)

Fig. 1 - Static Characteristics

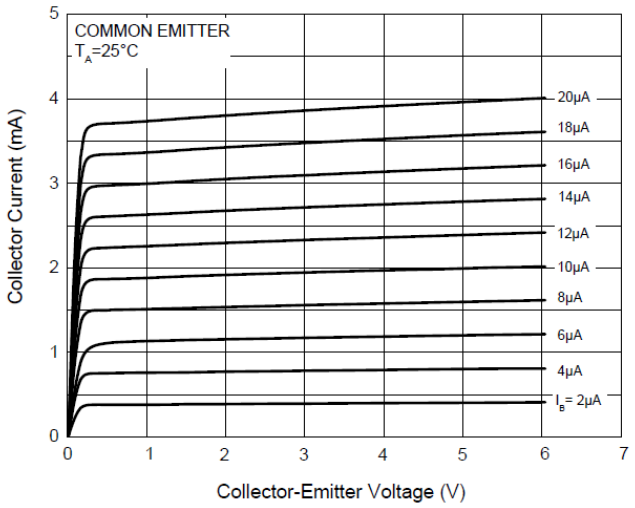


Fig. 2 - DC Current Gain Characteristics

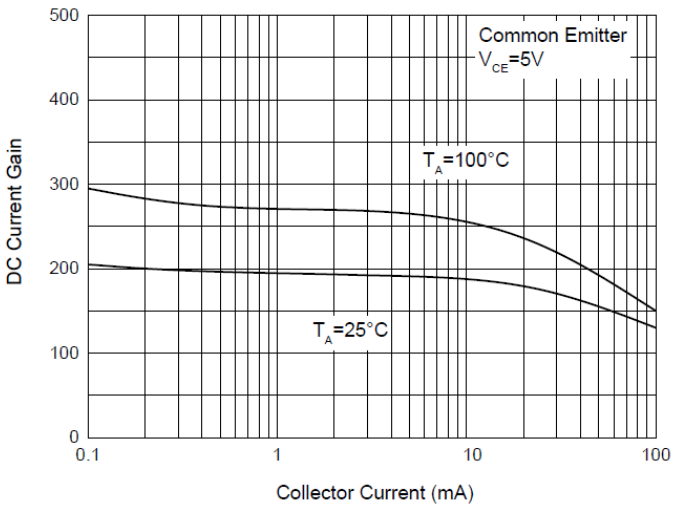


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

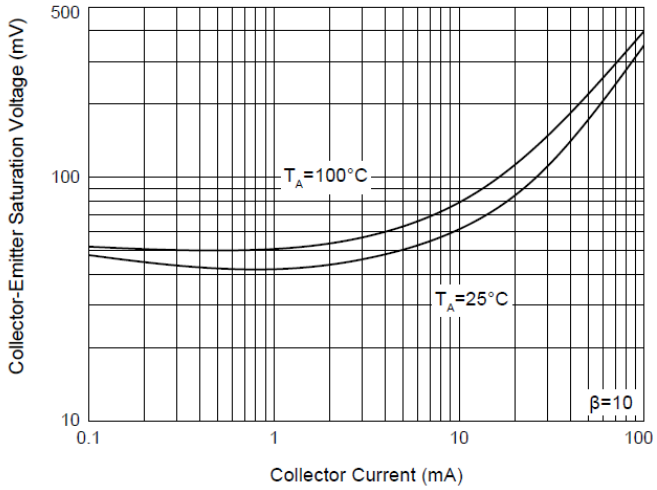


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

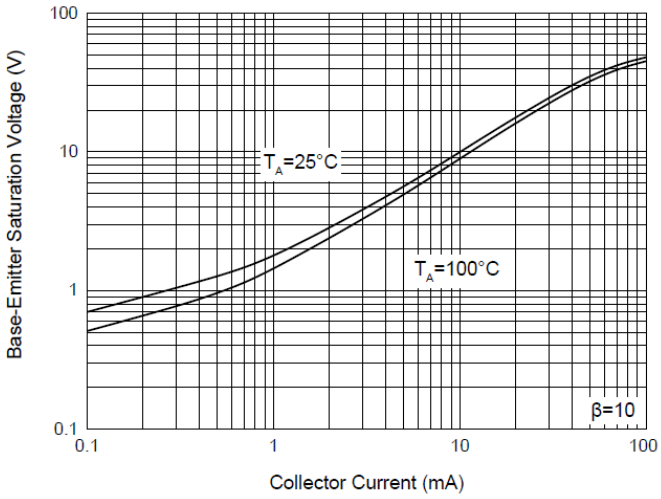
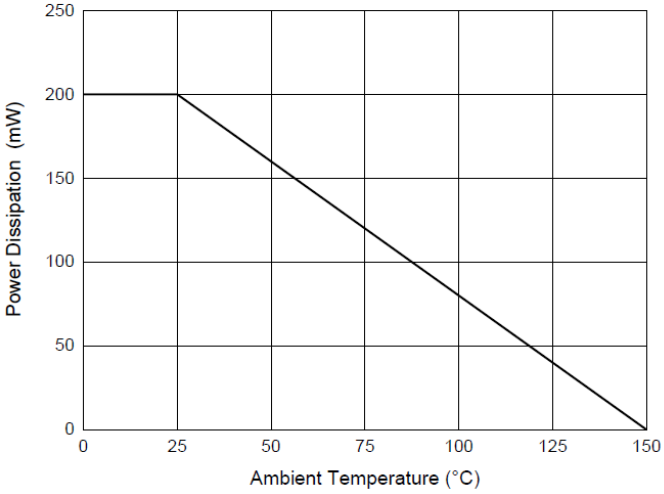
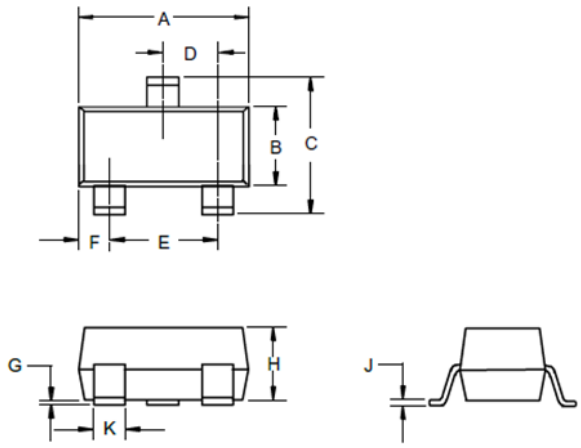


Fig. 5 - Power Derating Curve

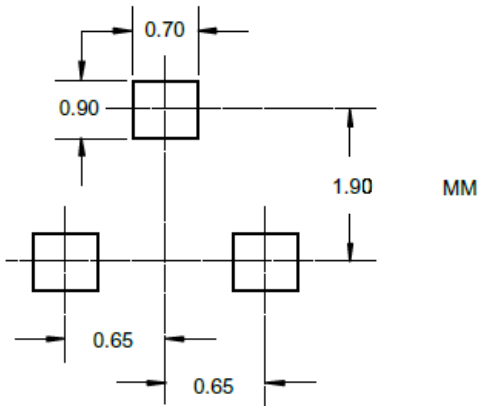


■SOT-323 Package Outline Dimensions



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.071	0.087	1.80	2.20	
B	0.045	0.053	1.15	1.35	
C	0.083	0.096	2.10	2.45	
D	0.026Nominal		0.65Nominal		
E	0.047	0.055	1.20	1.40	
F	0.012	0.016	0.30	0.40	
G	0.000	0.004	0.00	0.10	
H	0.035	0.039	0.90	1.00	
J	0.004	0.010	0.10	0.250	
K	0.006	0.016	0.15	0.40	

■SOT-323 Soldering Footprint



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