DTAXXXXCA_R1_R2

PNP Digital Transistor

Features

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

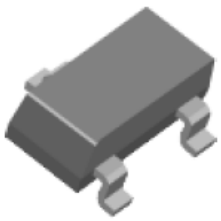
Applications

Case: SOT-23 Molded plastic

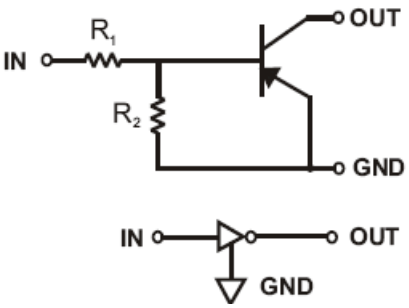
- The NPN style digital transistor.

Packing & Order Information

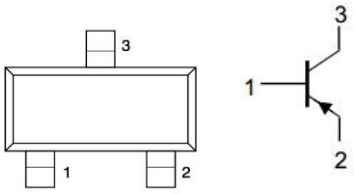
3,000/Reel

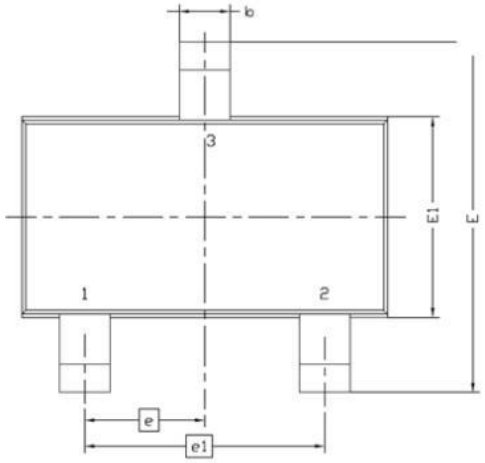


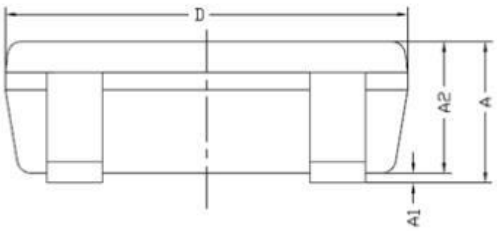
RoHS
COMPLIANT

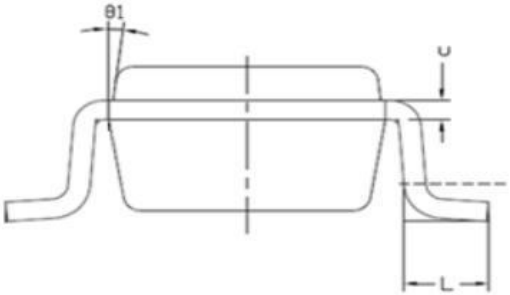


Graphic symbol









Symbol	MILLIMETERS	
	MIN	MAX
A	0.8	1.2
A1	0	0.1
A2	0.7	1.1
b	0.3	0.5
c	0.1	0.2
D	2.7	3.1
E	2.6	3
E1	1.4	1.8
e	0.95 BSC	
e1	1.9 BSC	
L	0.3	0.6
θ1	7° NOM	

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ORDERING INFORMATION		
Type No.	Marking	Package Code
DTA113ZCA	E11	SOT-23
DTA114WCA	74	SOT-23
DTA114YCA	54	SOT-23
DTA123JCA	E32	SOT-23
DTA123YCA	52	SOT-23
DTA143XCA	33	SOT-23
DTA143ZCA	E13	SOT-23

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

MAXIMUM RATINGS (Ta=25°C, unless otherwise specified)			
Symbol	Parameter	Ratings	Unit
V_{CC}	Supply Voltage	-50	V
V_{IN}	Input Voltage DTA113ZCA DTA114WCA DTA114YCA DTA123JCA DTA123YCA DTA143XCA DTA143ZCA	+5 to -10 +10 to -30 +6 to -40 +5 to -12 +5 to -12 +7 to -20 +5 to 30	V
I_O	Output Current DTA113ZCA DTA114WCA DTA114YCA DTA123JCA DTA123YCA DTA143XCA DTA143ZCA	-100 -100 -70 -100 -100 -100 -100	V
I_C(Max.)	Output current ALL	-100	mA
P_D	Power Dissipation	200	mW

MAXIMUM RATINGS (Ta=25°C, unless otherwise specified)			
Symbol	Parameter	Value	Unit
RθJA	Thermal Resistance, Junction to Ambient Air	625	°C/W
Tj,Tstg	Operating and Storage and Temperature Range	-55 to +150	°C

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified						
Parameter	Symbol	Conditions	Min	Tpy	Max.	Units
Input Voltage DTA113ZCA	VI(off)	VCC=-5V,IO=-100μA	-0.3			V
DTA114WCA			-0.8			
DTA114YCA			-0.3			
DTA123JCA			-0.5			
DTA123YCA			-0.3			
DTA143XCA			-0.3			
DTA143ZCA			-0.5			
Input Voltage DTA113ZCA	VI(on)	VO=-0.3V,IO=-20mA			-3.0	
DTA114WCA		VO=-0.3V,IO=-2mA			-3.0	
DTA114YCA		VO=-0.3V,IO=-1mA			-1.4	
DTA123JCA		VO=-0.3V,IO=-5mA			-1.1	
DTA123YCA		VO=-0.3V,IO=-20mA			-3.0	
DTA143XCA		VO=-0.3V,IO=-20mA			-2.5	
DTA143ZCA		VO=-0.3V,IO=-5mA			-1.3	
Output Voltage DTA123JCA	VO(on)	Io/II=-5mA/-0.25mA Io/II=-10mA/-0.5mA		-0.1	-0.3	
DTA143ZCA						
DTA114YCA						
ALL Others						
Input Current DTA113ZCA	I_I	VI=-5V			-7.2	
DTA114WCA					-0.88	
DTA114YCA					-0.88	
DTA123JCA					-3.6	
DTA123YCA					-3.8	
DTA143XCA					-1.8	
DTA143ZCA					-1.8	
Output Current	IO(off)	VCC=-50V,VI=0V			-0.5	
DC Current Gain DTA113ZCA	GI	VO=-5V,IO=-10mA	33			
DTA114WCA			24			
DTA114YCA			68			
DTA123JCA			80			
DTA123YCA			33			
DTA143XCA			30			
DTA143ZCA			80			

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified						
Parameter	Symbol	Conditions	Min	Tpy	Max.	Units
Input Resistor DTA113ZCA	R1(R2)		0.7	1(10)	1.3	kΩ
DTA114WCA			7	10(4.7)	13	
DTA114YCA			7	10(47)	13	
DTA123JCA			1.54	2.2(47)	2.86	
DTA123YCA			1.54	2.2(10)	2.86	
DTA143XCA			3.29	4.7(10)	6.11	
DTA143ZCA			3.29	4.7(47)	6.11	
Input Resistor (R1) Tolerance	ΔR1		-30		30	%
Resistance Ratio Tolerance	ΔR2/R1		-20		20	%
Gain-Bandwidth Product	fT	VCE=-10V,IE=5mA, f=100MHz		250		MHz

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■TYPICAL CHARACTERISTICS @ Ta=25˚C unless otherwise specified

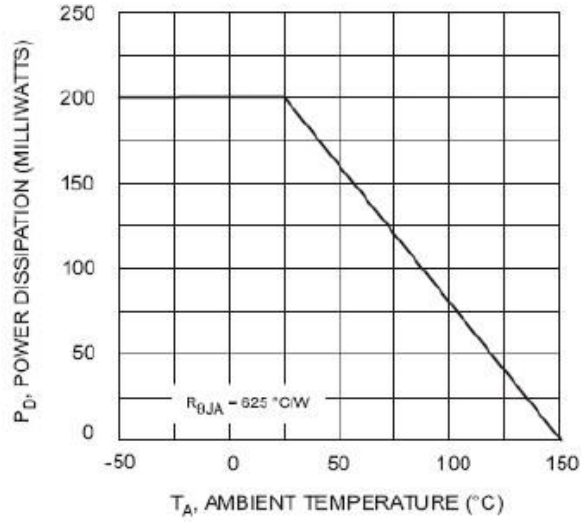

FIG.1 – DEARTING CURVE

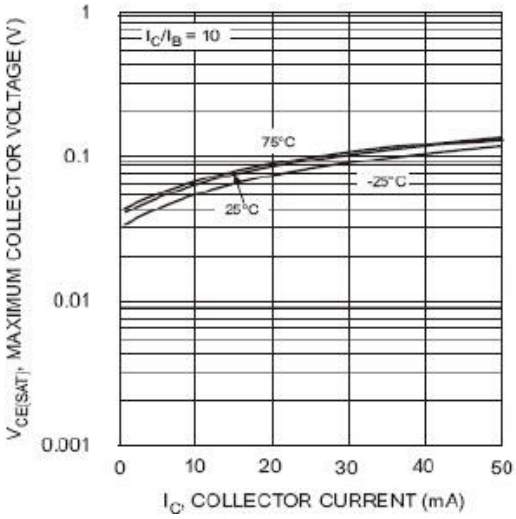

FIG.2 – VCE(SAT) VS IC

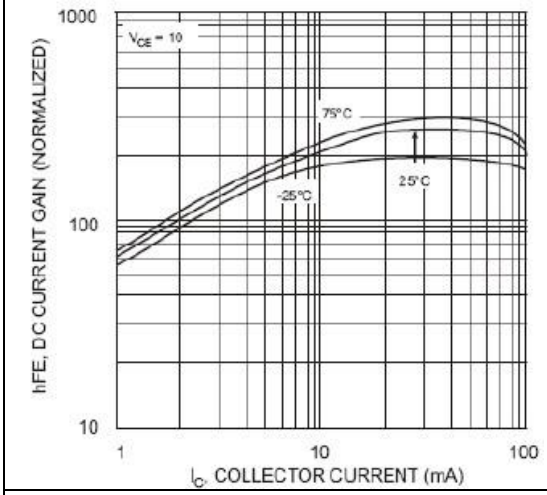

FIG.3 – DC CURRENT GAIN

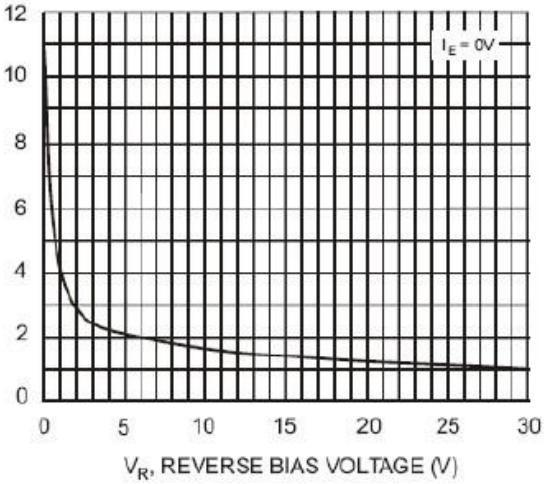

FIG.4 – OUTPUT CAPACITANCE

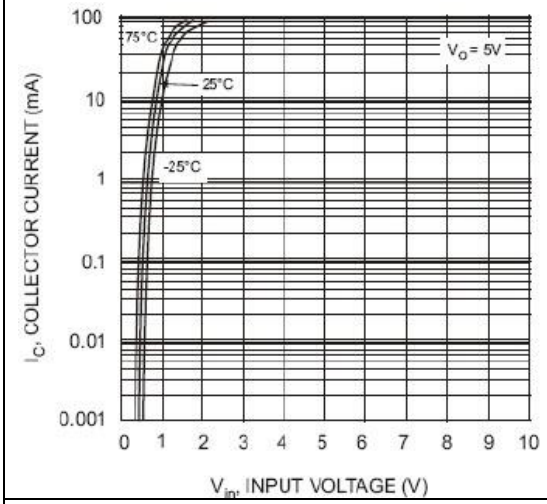

FIG.5 – COLLECTOR CURRENT VS INPUT VOLTAGE

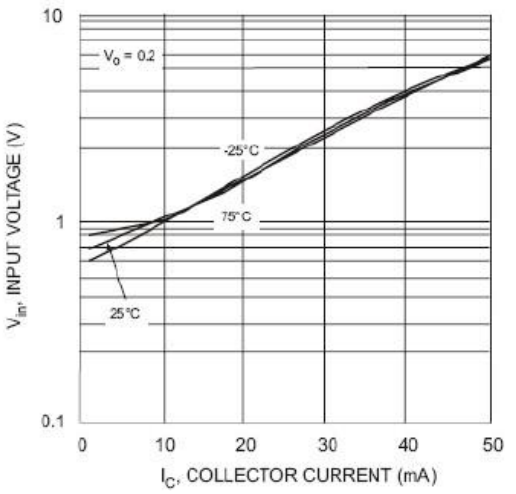

FIG.6 – INPUT VOLTAGE VS COLLECTOR CURRENT

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