DESCRIPTION

The DTC114EE is available in SOT-523 package.

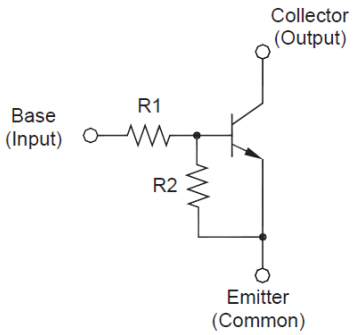
FEATURE

- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process

ORDERING INFORMATION

Package Type	Part Number
SOT-523	DTC114EE
SPQ	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION



PIN#	DESCRIPTION
1	Base
2	Emitter
3	Collector

ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise specified.

V_{CEO}, Collector Emitter Voltage	50 V
V_I, Input Voltage	-10 ~ +40 V
I_C, Collector Current	100 mA
P_{tot}, Power Dissipation	150 mW
T_j, Junction Temperature	150 °C
T_{stg}, Storage Temperature Range	-55 ~ +150 °C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

T_A=25°C unless otherwise specified.

Parameter	Symbols	Conditions	Min.	Typ.	Max.	Unit
Dc Current Gain	h_{FE}	V_{CE} = 5 V, I_C = 5 mA	30	-	-	-
Collector Base Cutoff Current	I_{CBO}	V_{CB} = 50V	-	-	500	nA
Emitter Base Cutoff Current	I_{EBO}	V_{EB} = 5V	-	-	0.88	mA
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 10 mA , I_B = 0.5 mA	-	-	0.3	V
Input On Voltage	$V_{I(on)}$	V_{CE} = 0.3 V, I_C = 10 mA	-	-	3	V
Input Off Voltage	$V_{I(off)}$	V_{CE} = 5 V, I_C = 100 μA	0.5	-	-	V
Transition Frequency	f_T	V_{CE} = 10 V, $-I_E$ = 5 mA, f = 100 MHz	-	250	-	MHz
Input Resistance	R_1	-	7	10	13	KΩ
Resistance Ratio	R_2/R_1	-	0.8	1	1.2	-

TYPICAL CHARACTERISTICS

Fig 1. Input Voltage vs. Output Current (ON Characteristics)

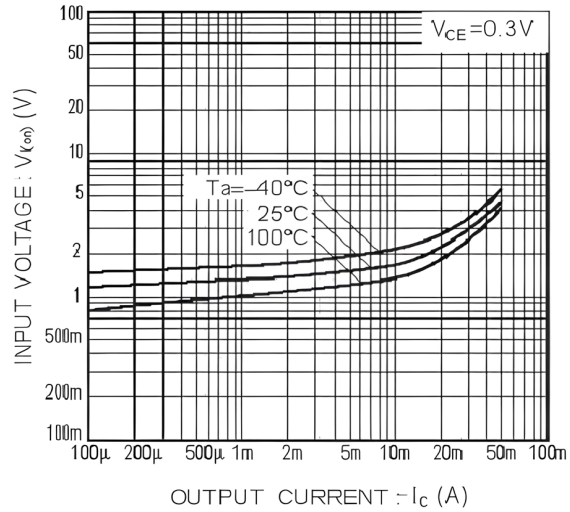


Fig 2. Output Current vs. Input Voltage (OFF Characteristics)

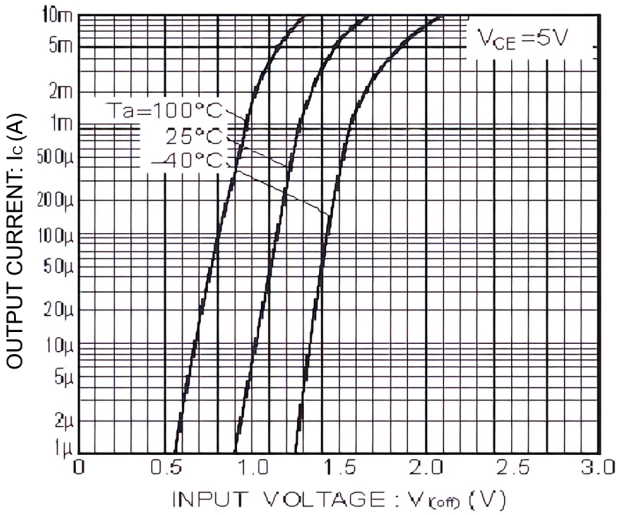


Fig 3. DC Current Gain vs. Output Current

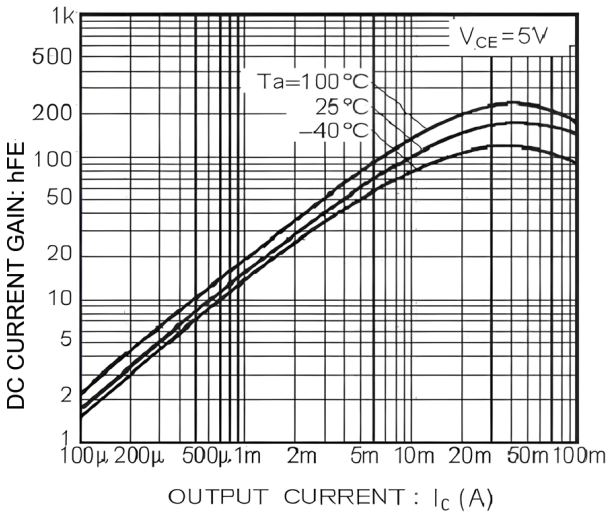
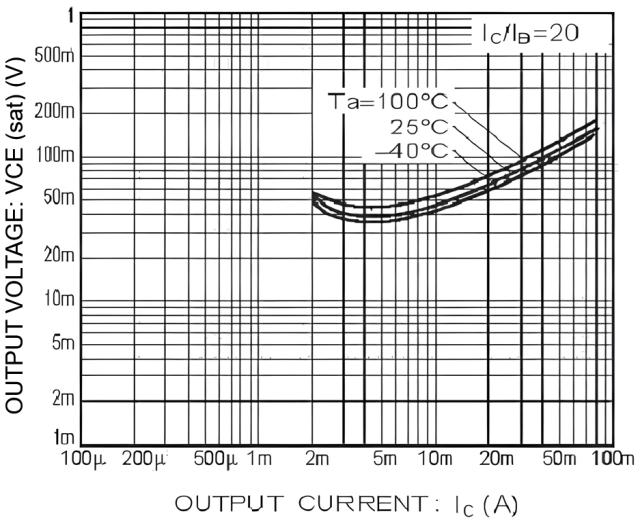
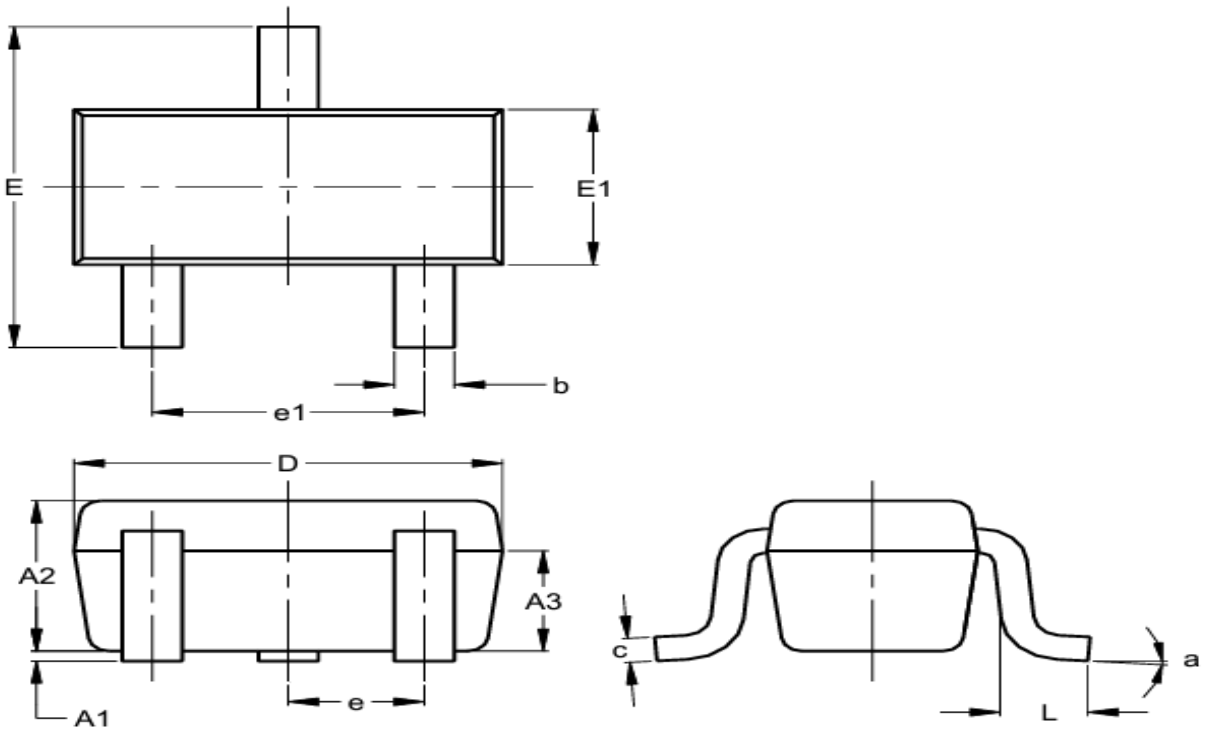


Fig 4. Output Voltage vs. Output Current



PACKAGE INFORMATION

Dimension in SOT-523 (Unit: mm)



Symbol	Millimeter	
	Min.	Max.
A1	0.000	0.100
A2	0.600	0.800
A3	0.450	0.650
b	0.150	0.300
c	0.100	0.200
D	1.500	1.700
E	1.450	1.750
E1	0.750	0.850
e	0.500 BSC.	
e1	0.900	1.100
L	0.200	0.400
a	0°	8°

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