

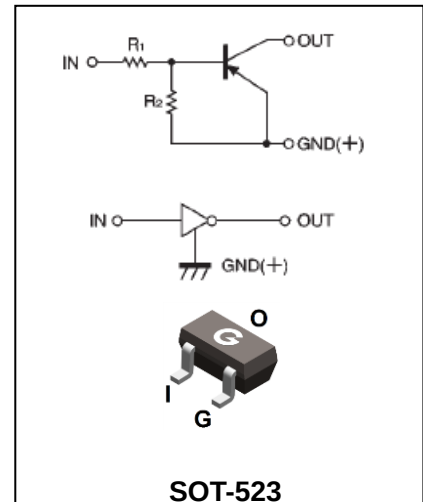
Digital Transistor

TDTA(R₁≠R₂ SERIES)E

FEATURES

- Epitaxial planar die construction
- Complementary NPN types available(DTC)
- Built-in biasing resistors, R₁≠R₂
- Also available in lead free version
- Halogen free
- Qualified to AEC-Q101 standards for high reliability

HF



APPLICATIONS

- The PNP style digital transistor

ORDERING INFORMATION

Type No.	Marking	Package Code
TDTA113ZE	E11	SOT-523
TDTA114WE	74	SOT-523
TDTA114YE	54	SOT-523
TDTA123JE	E32	SOT-523
TDTA123YE	52	SOT-523
TDTA143XE	33	SOT-523
TDTA143ZE	E13	SOT-523

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	Parameter	Value	Units
V _{CC}	Supply Voltage	-50	V
V _{IN}	Input Voltage	TDTA113ZE +5 to -10 TDTA114WE +10 to -30 TDTA114YE +6 to -40 TDTA123JE +5 to -12 TDTA123YE +5 to -12 TDTA143XE +7 to -20 TDTA143ZE +5 to -30	V
I _O	Output Current	TDTA113ZE -100 TDTA114WE -100 TDTA114YE -70 TDTA123JE -100 TDTA123YE -100 TDTA143XE -100 TDTA143ZE -100	mA
I _C (Max.)	Output current	ALL -100	mA

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P _D	Power Dissipation	150	mW
R _{θJA}	Thermal Resistance, Junction to Ambient Air	833	°C/W
T _j , T _{stg}	Operating and Storage and Temperature Range	-55 to +150	°C

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Input Voltage	TDTA113ZE TDTA114WE TDTA114YE TDTA123JE TDTA123YE TDTA143XE TDTA143ZE	V _{I(off)} V _{CC} =-5V, I _O =-100μA	-0.3 -0.8 -0.3 -0.5 -0.3 -0.3 -0.5	-	-	V
Input Voltage	TDTA113ZE TDTA114WE TDTA114YE TDTA123JE TDTA123YE TDTA143XE TDTA143ZE	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 -3 -1.4 -1.1 -3.0 -2.5 -1.3	V
Output Voltage	TDTA123JE TDTA143ZE TDTA114YE 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	TDTA113ZE TDTA114WE TDTA114YE TDTA123JE TDTA123YE TDTA143XE TDTA143ZE	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	TDTA113ZE TDTA114WE TDTA114YE TDTA123JE TDTA123YE TDTA143XE TDTA143ZE	G _I V _O =-5V, I _O =-5mA V _O =-5V, I _O =-10mA V _O =-5V, I _O =-5mA V _O =-5V, I _O =-10mA V _O =-5V, I _O =-10mA V _O =-5V, I _O =-10mA V _O =-5V, I _O =-10mA	33 24 68 80 33 30 80	-	-	
Input Resistor	TDTA113ZE	R ₁ (R ₂)	0.7	1	1.3	kΩ

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	TDTA114WE			7	10	13	
	TDTA114YE			7	10	13	
	TDTA123JE			1.54	2.2	2.86	
	TDTA123YE			1.54	2.2	2.86	
	TDTA143XE			3.29	4.7	6.11	
	TDTA143ZE			3.29	4.7	6.11	
Resistance Ratio	TDTA113ZE	R ₂ /R ₁		8	10	12	-
	TDTA114WE			0.37	0.47	0.57	
	TDTA114YE			3.7	4.7	5.7	
	TDTA123JE			17	21	26	
	TDTA123YE			3.6	4.5	5.5	
	TDTA143XE			1.7	2.1	2.6	
	TDTA143ZE			8	10	12	
Gain-Bandwidth Product		f _T	V _{CE} =-10V, I _E =5mA, f=100MHz	-	250	-	MHz

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

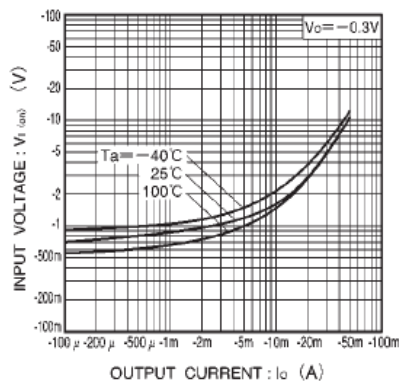


Fig.1 Input voltage vs. output current (ON characteristics)

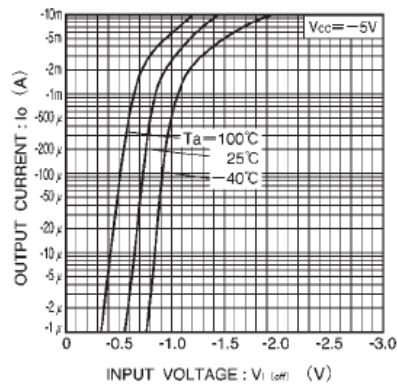


Fig.2 Output current vs. input voltage (OFF characteristics)

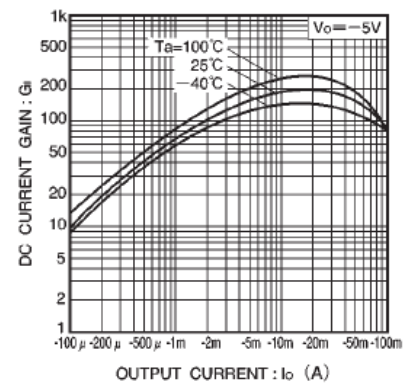


Fig.3 DC current gain vs. output current

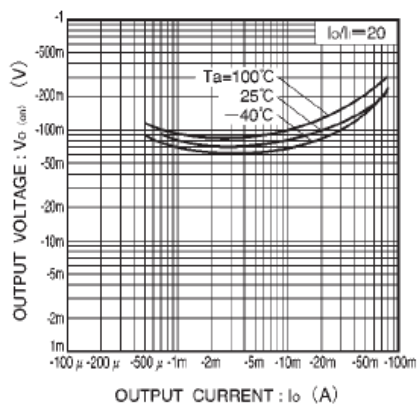


Fig.4 Output voltage vs. output current

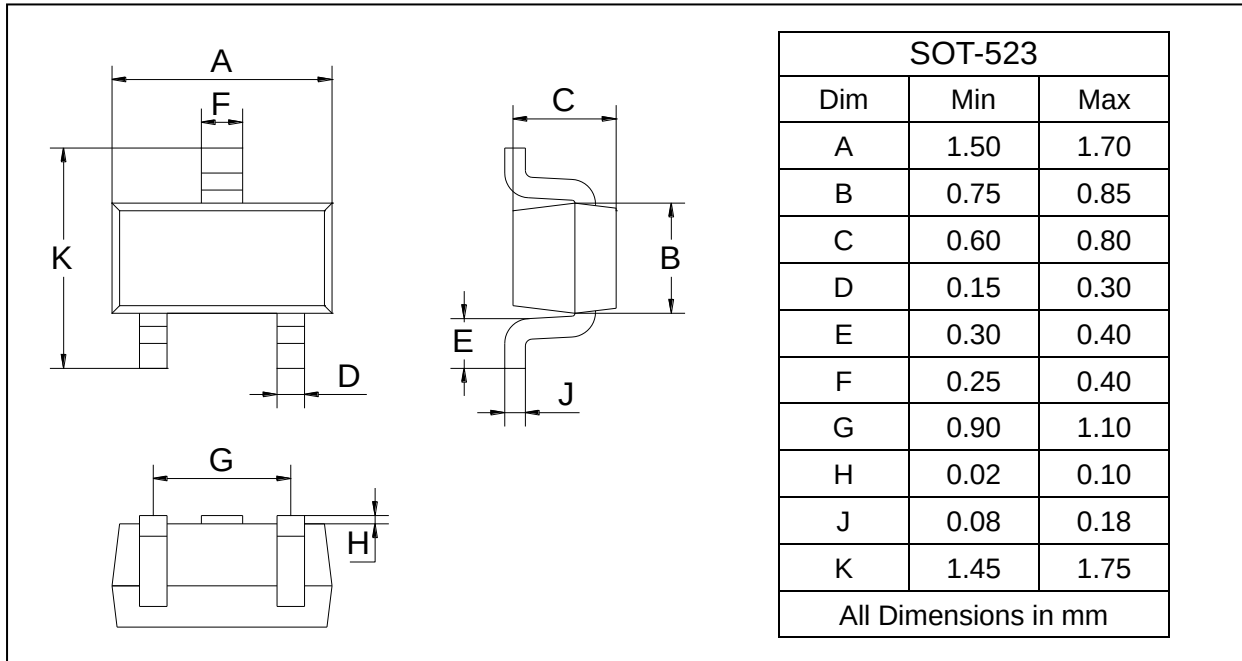
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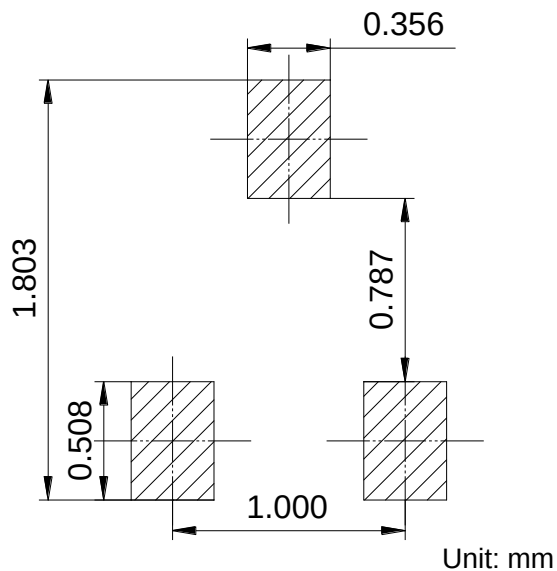
PACKAGE OUTLINE

Plastic surface mounted package

SOT-523



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
TDTAXXXE	SOT-523	3000 pcs / Tape & Reel