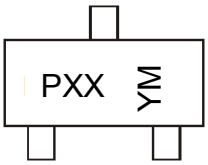
Marking Information



PXX = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: I = 2021)
M = Month (ex: 9 = September)

Date Code Key

Year	2016	.....	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Code	D	.....	I	J	K	L	M	N	O	P	R	S

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Absolute Maximum Ratings (@ T_A = +25°C, unless otherwise specified.)

Characteristic		Symbol	Value	Unit
Supply Voltage, (3) to (2)		V_{CC}	50	V
Input Voltage, (1) to (2)	DDTB113EU DDTB123EU DDTB143EU DDTB114EU DDTB122JU DDTB113ZU DDTB123YU DDTB133HU	V_{IN}	+10 to -10 +10 to -12 +10 to -30 +10 to -40 +5 to -5 +5 to -10 +5 to -12 +6 to -20	V
Input Voltage, (2) to (1)	DDTB123TU DDTB143TU DDTB114TU DDTB114GU	$V_{EBO\ (MAX)}$	-5	V
Output Current	All	I_C	-500	mA

Thermal Characteristics (@ T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_D	200	mW
Thermal Resistance, Junction to Ambient Air (Note 5)	$R_{\theta JA}$	625	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Note: 5. Mounted on FR4 PC Board with minimum recommended pad layout.

Electrical Characteristics (@ T_A = +25°C, unless otherwise specified.) R1, R2 Types

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Input Voltage	DDTB113EU DDTB123EU DDTB143EU DDTB114EU DDTB122JU DDTB113ZU DDTB123YU DDTB133HU	$V_{I(off)}$	-0.5 -0.5 -0.5 -0.5 -0.5 -0.3 -0.3 -0.3	—	—	V	V_{CC} = -5V, I_O = -100µA
	DDTB113EU DDTB123EU DDTB143EU DDTB114EU DDTB122JU DDTB113ZU DDTB123YU DDTB133HU	$V_{I(on)}$	—	—	-3.0 -3.0 -3.0 -3.0 -3.0 -2.0 -2.0 -2.0	V	V_O = -0.3V, I_O = -20mA V_O = -0.3V, I_O = -20mA V_O = -0.3V, I_O = -20mA V_O = -0.3V, I_O = -10mA V_O = -0.3V, I_O = -30mA V_O = -0.3V, I_O = -20mA V_O = -0.3V, I_O = -20mA V_O = -0.3V, I_O = -20mA
Output Voltage		$V_{O(on)}$	—	—	-0.3	V	I_O/I_I = -50mA/-2.5mA
Input Current	DDTB113EU DDTB123EU DDTB143EU DDTB114EU DDTB122JU DDTB113ZU DDTB123YU DDTB133HU	I_I	—	—	-7.2 -3.8 -1.8 -0.88 -28 -7.2 -3.6 -2.4	mA	V_I = -5V
Output Current		$I_{O(off)}$	—	—	-0.5	µA	V_{CC} = -50V, V_I = 0V
DC Current Gain	DDTB113EU DDTB123EU DDTB143EU DDTB114EU DDTB122JU DDTB113ZU DDTB123YU DDTB133HU	G_I	33 39 47 56 47 56 56 56	—	—	—	V_O = 5V, I_O = 50mA
Gain-Bandwidth Product (Note 6)		f_T	—	200	—	MHz	V_{CE} = -10V, I_E = -5mA, f = 100MHz

Electrical Characteristics @ T_A = 25°C unless otherwise specified R1-Only, R2-Only Types

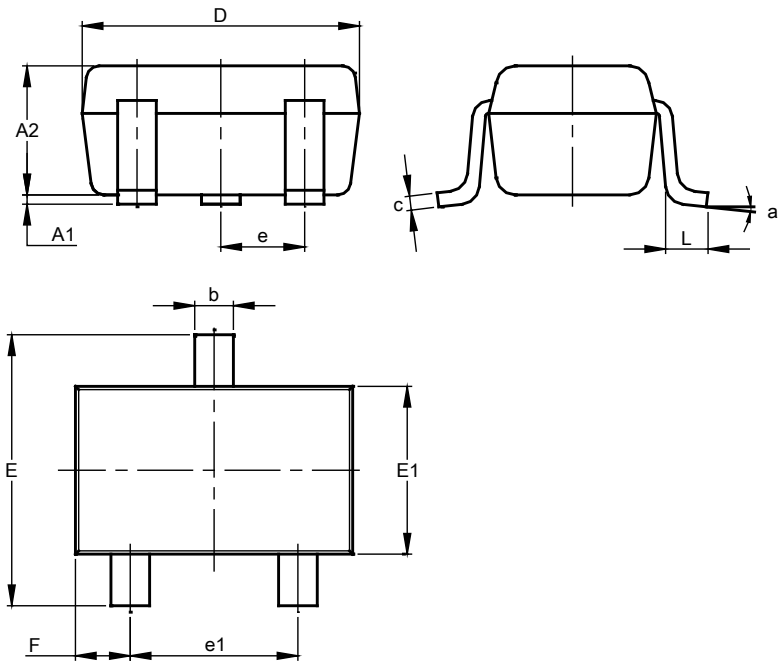
Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage		BV_{CBO}	-50	—	—	V	I_C = -50µA
Collector-Emitter Breakdown Voltage		BV_{CEO}	-40	—	—	V	I_C = -1mA
Emitter-Base Breakdown Voltage	DDTB123TU DDTB143TU DDTB114TU DDTB114GU	BV_{EBO}	-5	—	—	V	I_E = -50µA I_E = -50µA I_E = -50µA I_E = -720µA
Collector Cutoff Current		I_{CBO}	—	—	-0.5	µA	V_{CB} = -50V
Emitter Cutoff Current	DDTB123TU DDTB143TU DDTB114TU DDTB114GU	I_{EBO}	— — — -300	—	-0.5 -0.5 -0.5 -580	µA	V_{EB} = -4V
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	—	—	-0.3	V	I_C = -50mA, I_B = -2.5mA
DC Current Transfer Ratio	DDTB123TU DDTB143TU DDTB114TU DDTB114GU	h_{FE}	100 100 100 56	250 250 250 —	600 600 600 —	—	I_C = -5mA, V_{CE} = -5V
Gain-Bandwidth Product (Note 6)		f_T	—	200	—	MHz	V_{CE} = -10V, I_E = -5mA, f = 100MHz

Note: 6. Transistor - for reference only

Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT323

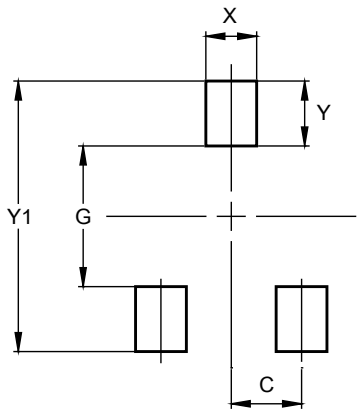


SOT323			
Dim	**Min**	**Max**	**Typ**
A1	0.00	0.10	0.05
A2	0.90	1.00	0.95
b	0.25	0.40	0.30
c	0.10	0.18	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
e1	1.20	1.40	1.30
F	0.375	0.475	0.425
L	0.25	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT323



Dimensions	Value (in mm)
C	0.650
G	1.300
X	0.470
Y	0.600
Y1	2.500

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