

Electrical Characteristics @T_A = 25°C unless otherwise specified

R1, R2 Types

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Input Voltage	DDTC122LE DDTC142JE	V _{I(off)}	0.3 0.3	—	—	V	V _{CC} = 5V, I _O = 100μA
	DDTC122LE DDTC142JE	V _{I(on)}	—	—	2.0 2.0	V	V _O = 0.3V, I _O = 20mA V _O = 0.3V, I _O = 20mA
Output Voltage		V _{O(on)}	—	—	0.3V	V	I _O /I _I = 5mA/0.25mA
Input Current	DDTC122LE DDTC142JE	I _I	—	—	28 13	mA	V _I = 5V
Output Current		I _{O(off)}	—	—	0.5	μA	V _{CC} = 50V, V _I = 0V
DC Current Gain	DDTC122LE DDTC142JE	G _I	56 56	—	—	—	V _O = 5V, I _O = 10mA
Gain-Bandwidth Product*		f _T	—	200	—	MHz	V _{CE} = 10V, I _E = 5mA, f = 100MHz

* Transistor - For Reference Only

Electrical Characteristics @T_A = 25°C unless otherwise specified

R1-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	DDTC122TE DDTC142TE	BV _{EBO}	5	—	—	V	I _E = 50μA I _E = 50μA
Collector Cutoff Current		I _{CBO}	—	—	0.5	μA	V _{CB} = 50V
Emitter Cutoff Current	DDTC122TE DDTC142TE	I _{EBO}	— —	—	0.5 0.5	μA	V _{EB} = 4V
Collector-Emitter Saturation Voltage		V _{CE(sat)}	—	—	0.3	V	I _C = 5mA, I _B = 0.25mA
DC Current Transfer Ratio	DDTC122TE DDTC142TE	h _{FE}	100 100	250 250	600 600	—	I _C = 1mA, V _{CE} = 5V
Gain-Bandwidth Product*		f _T	—	200	—	MHz	V _{CE} = 10V, I _E = -5mA, f = 100MHz

* Transistor - For Reference Only

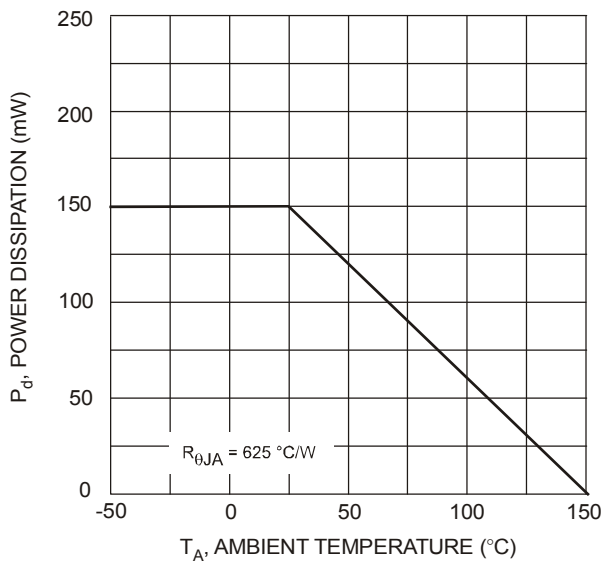


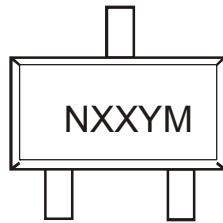
Fig. 1 Power Derating Curve

Ordering Information (Note 5)

Device	Packaging	Shipping
DDTC122LE-7-F	SOT-523	3000/Tape & Reel
DDTC142JE-7-F	SOT-523	3000/Tape & Reel
DDTC122TE-7-F	SOT-523	3000/Tape & Reel
DDTC142TE-7-F	SOT-523	3000/Tape & Reel

Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



Nxx = Product Type Marking Code (See Page 1)
 YM = Date Code Marking
 Y = Year ex: T = 2006
 M = Month ex: 9 = September

Date Code Key

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	N	P	R	S	T	U	V	W	X	Y	Z

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

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