

## Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
<b>OFF CHARACTERISTICS (Note 6)</b>					
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	300	—	V	I <sub>C</sub> = 100μA, I <sub>E</sub> = 0
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	300	—	V	I <sub>C</sub> = 1.0mA, I <sub>B</sub> = 0
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	6.0	—	V	I <sub>E</sub> = 100μA, I <sub>C</sub> = 0
Collector Cutoff Current	I <sub>CBO</sub>	—	100	nA	V <sub>CB</sub> = 200V, I <sub>E</sub> = 0
Collector Cutoff Current	I <sub>EBO</sub>	—	100	nA	V <sub>CE</sub> = 6.0V, I <sub>C</sub> = 0
<b>ON CHARACTERISTICS (Note 6)</b>					
DC Current Gain	h <sub>FE</sub>	25 40 40	—	—	I <sub>C</sub> = 1.0mA, V <sub>CE</sub> = 10V I <sub>C</sub> = 10mA, V <sub>CE</sub> = 10V I <sub>C</sub> = 30mA, V <sub>CE</sub> = 10V
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)</sub>	—	0.5	V	I <sub>C</sub> = 20mA, I <sub>B</sub> = 2.0mA
Base-Emitter Saturation Voltage	V <sub>BE(SAT)</sub>	—	0.9	V	I <sub>C</sub> = 20mA, I <sub>B</sub> = 2.0mA
<b>SMALL SIGNAL CHARACTERISTICS</b>					
Output Capacitance	C <sub>cb</sub>	—	3.0	pF	V <sub>CB</sub> = 20V, f = 1.0MHz, I <sub>E</sub> = 0
Current Gain-Bandwidth Product	f <sub>T</sub>	50	—	MHz	V <sub>CE</sub> = 20V, I <sub>C</sub> = 10mA, f = 100MHz

Notes: 6. Short duration pulse test used to minimize self-heating effect.

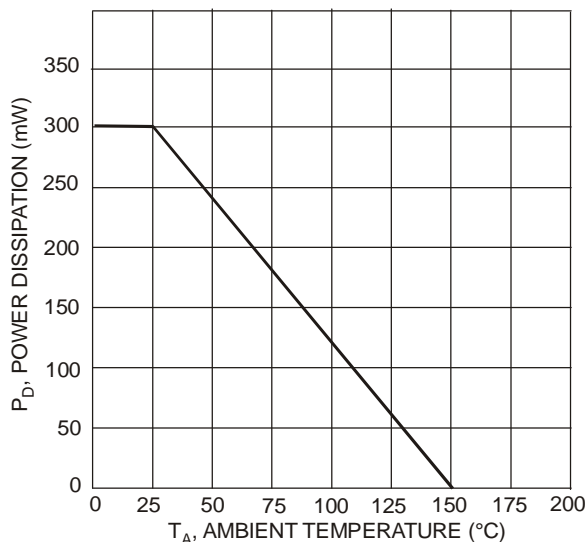


Fig. 1, Max Power Dissipation vs. Ambient Temperature

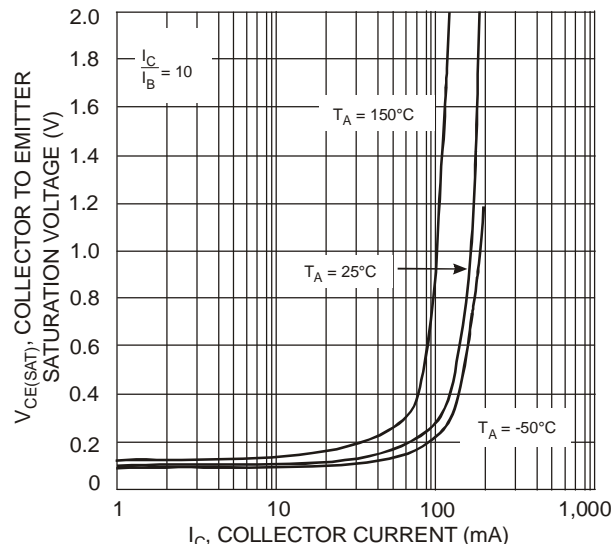


Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current

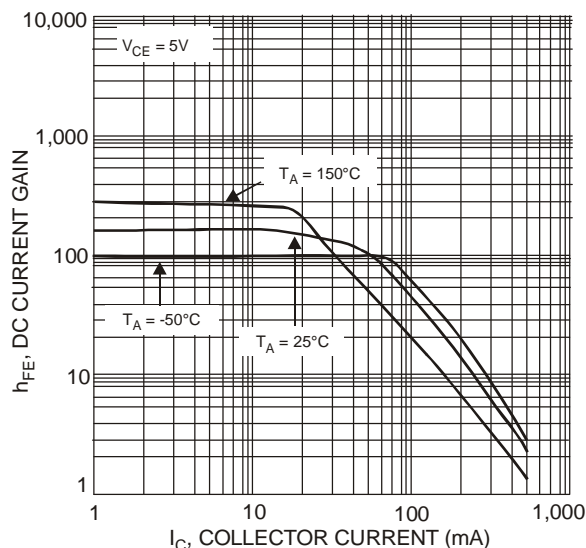


Fig. 3, DC Current Gain vs. Collector Current

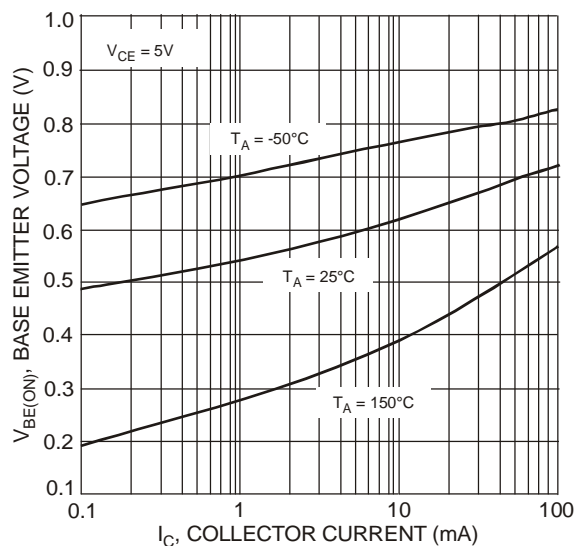


Fig. 4, Base Emitter Voltage vs. Collector Current

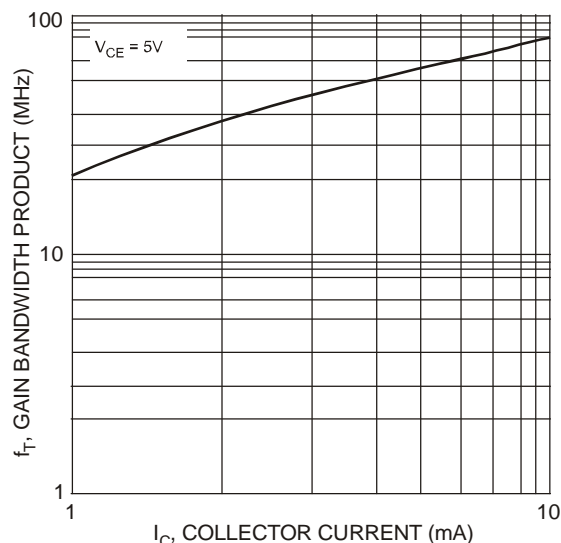


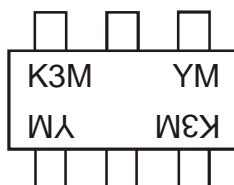
Fig. 5. Gain Bandwidth Product vs. Collector Current

## Ordering Information (Note 5 & 7 )

Device	Packaging	Shipping
MMDTA42-7-F	SOT-26	3000/Tape & Reel

Notes: 7. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Marking Information



K3M = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year ex: P = 2003  
 M = Month ex: 9 = September

### Date Code Key

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	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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