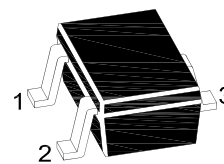
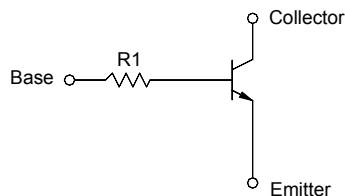


# MMDTC143TE

## NPN Silicon Epitaxial Planar Digital Transistor



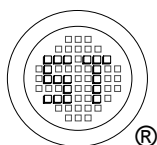
1.Base 2.Emitter 3.Collector  
SOT-523 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	50	V
Collector Emitter Voltage	$V_{CEO}$	50	V
Emitter Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	100	mA
Power Dissipation	$P_{tot}$	150	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$

### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$ , $I_C = 1\text{ mA}$	$h_{FE}$	100	-	600	-
Collector Base Cutoff Current at $V_{CB} = 50\text{ V}$	$I_{CBO}$	-	-	500	nA
Emitter Base Cutoff Current at $V_{EB} = 4\text{ V}$	$I_{EBO}$	-	-	500	nA
Collector Base Breakdown Voltage at $I_C = 50\text{ }\mu\text{A}$	$V_{(BR)CBO}$	50	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	50	-	-	V
Emitter Base Breakdown Voltage at $I_E = 50\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $I_C = 5\text{ mA}$ , $I_B = 0.25\text{ mA}$	$V_{CE(sat)}$	-	-	0.3	V
Input Resistance	$R_1$	3.29	4.7	6.11	K $\Omega$
Transition Frequency at $V_O = 10\text{ V}$ , $I_O = 5\text{ mA}$ , $f = 100\text{ MHz}$	$f_T$	-	250	-	MHz



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Dated: 01/03/2012 Rev: 02

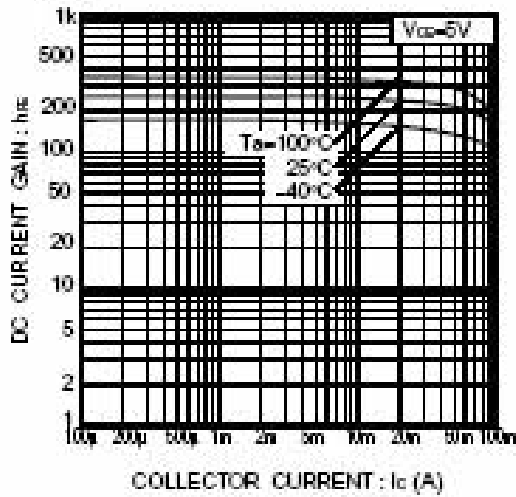


Fig.1 DC current gain vs. collector current

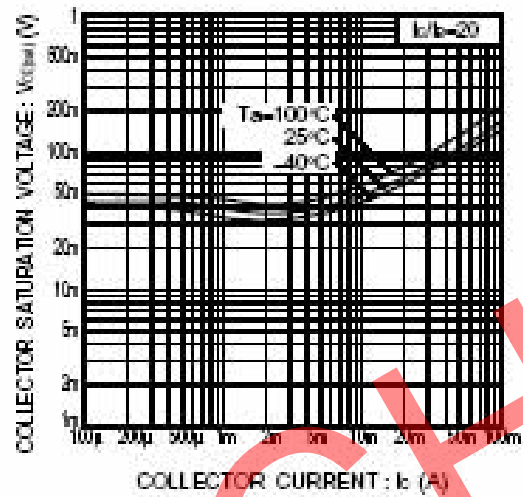
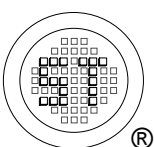


Fig.2 Collector-emitter saturation voltage vs. collector current

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