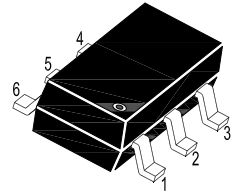
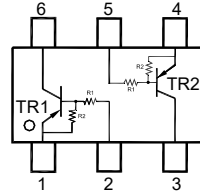


MMDTA141DW

PNP Silicon Epitaxial Planar Digital Transistor

Features

- Built-in bias resistors R1 (10 K Ω) and R2 (10 K Ω)
- Simplification of circuit design
- Reduces number of components and board space
- Switching circuit, inverter, interface circuit, driver circuit



TR1: 1. Emitter 2. Base 6. Collector
TR2: 4. Emitter 5. Base 3. Collector
SOT-363 Plastic Package

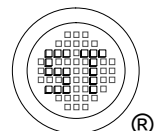
Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{\text{CBO}}$	50	V
Collector Emitter Voltage	$-V_{\text{CEO}}$	50	V
Emitter Base Voltage	$-V_{\text{EBO}}$	10	V
Collector Current	$-I_{\text{C}}$	100	mA
Total Power Dissipation ¹⁾	P_{tot}	200	mW
Operating Junction Temperature	T_{j}	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient ¹⁾	$R_{\theta\text{JA}}$	625	$^\circ\text{C/W}$

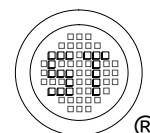
¹⁾ Device mounted on FR-4 substrate PC board, with minimum recommended pad layout.



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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE} = 5\text{ V}$, $-I_C = 5\text{ mA}$	h_{FE}	30	-	-	-
Collector Base Cutoff Current at $-V_{CB} = 50\text{ V}$	$-I_{CBO}$	-	-	100	nA
Emitter Base Cutoff Current at $-V_{EB} = 10\text{ V}$	$-I_{EBO}$	-	-	0.75	mA
Collector Base Breakdown Voltage at $-I_C = 10\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	50	-	-	V
Collector Emitter Breakdown Voltage at $-I_C = 100\text{ }\mu\text{A}$	$-V_{(BR)CEO}$	50	-	-	V
Input Voltage (off) at $-I_C = 100\text{ }\mu\text{A}$, $-V_{CE} = 5\text{ V}$	$-V_{I(OFF)}$	0.8	-	1.8	V
Input Voltage (on) at $-I_C = 2\text{ mA}$, $-V_{CE} = 0.3\text{ V}$	$-V_{I(ON)}$	1	-	2.5	V
Collector Emitter Saturation Voltage at $-I_C = 10\text{ mA}$, $-I_B = 0.5\text{ mA}$	$-V_{CE(sat)}$	-	-	0.3	V
Transition frequency at $-I_C = 10\text{ mA}$, $-V_{CE} = 5\text{ V}$, $f = 100\text{ MHz}$	f_T	-	200	-	MHz
Collector-Base Capacitance at $-V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{cb}	-	3	-	pF
Input Resistance	R_1	7	10	13	K Ω
Resistance Ratio	R_1/R_2	0.9	1	1.1	-



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Electrical Characteristics Curves

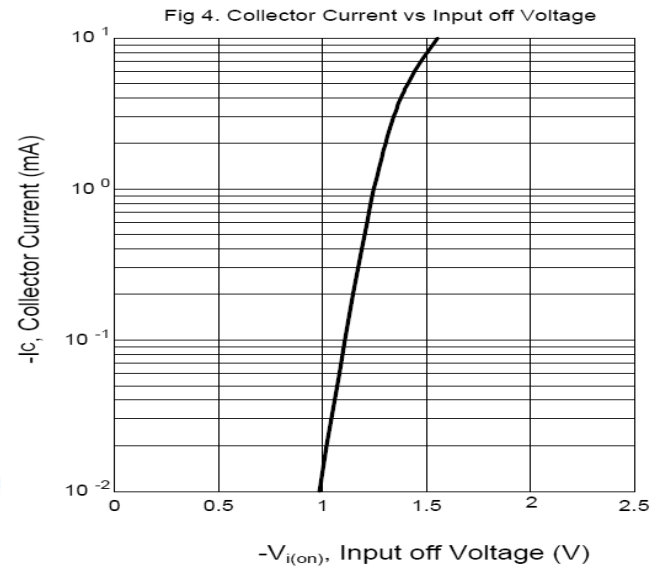
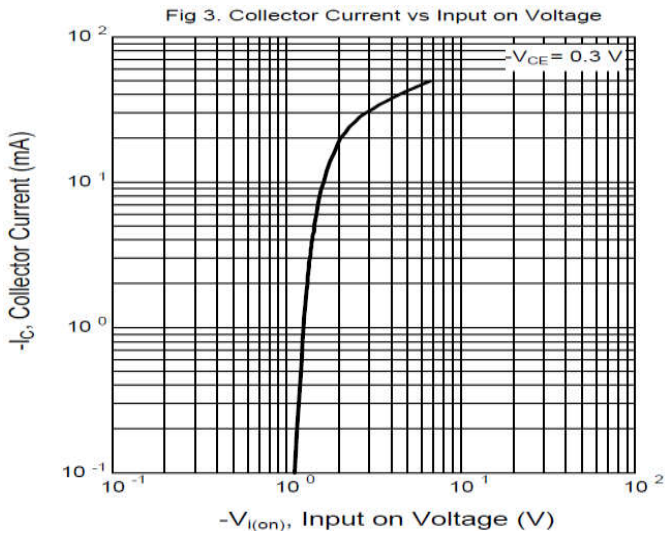
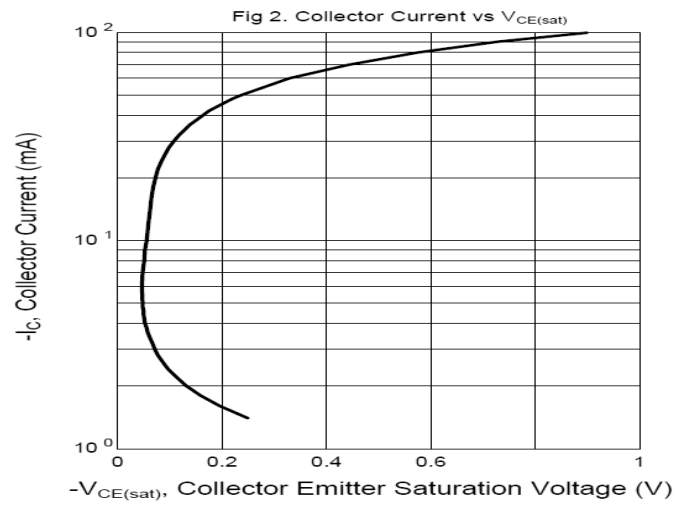
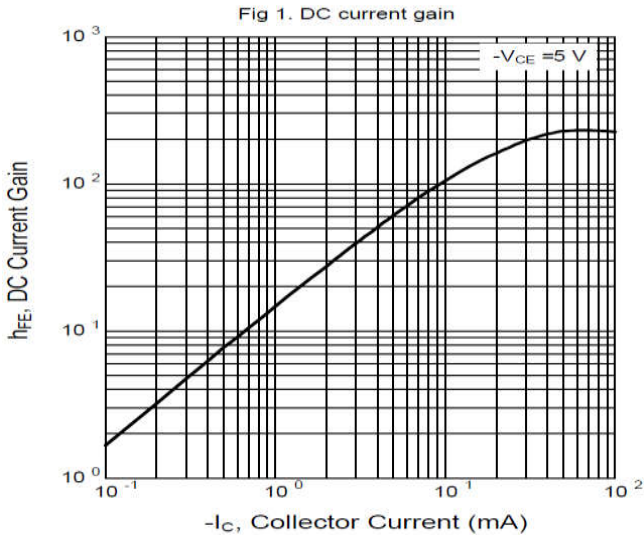
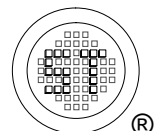
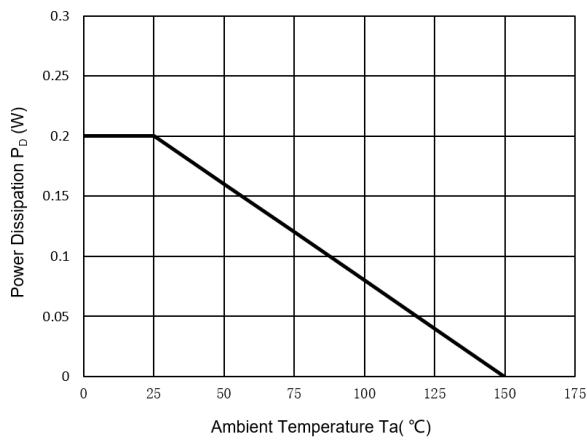


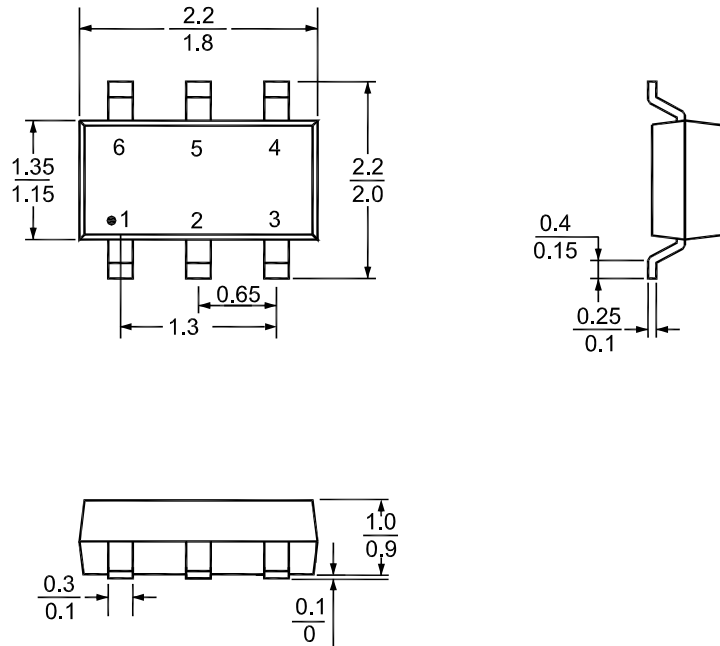
Fig 5. Power Derating Curve



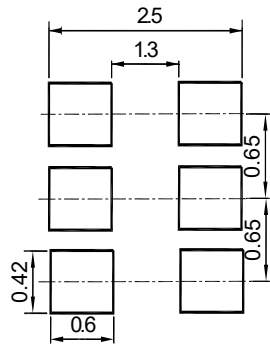
MMDTA141DW

Package Outline Dimensions (Units: mm)

SOT-363



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-363	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

" DP " = Part No.
 "YM" = Date Code Marking
 "Y" = Year
 "M" = Month
 Font type: Arial

