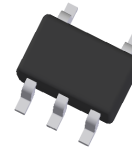


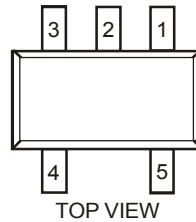
**Features**

- Epitaxial Planar Die Construction
- Surface Mount Package Suited for Automated Assembly
- Simplifies Circuit Design and Reduces Board Space
- Lead Free/RoHS Compliant (Note 1)
- "Green" Device (Note 2)

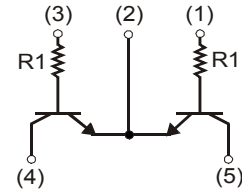


**Mechanical Data**

- Case: SOT-353
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminal Connections: See Diagram
- Terminals: Finish – Matte Tin Annealed Over Alloy 42 Leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.006 grams (approximate)



SOT-353



Schematic and Pin Configuration

**Maximum Ratings** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CB0</sub>	50	V
Collector-Emitter Voltage	V <sub>CEO</sub>	50	V
Emitter-Base Voltage	V <sub>EBO</sub>	5	V
Collector Current	I <sub>C</sub>	100	mA

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation @T <sub>A</sub> = 25°C (Note 3)	P <sub>D</sub>	150	mW
Thermal Resistance, Junction to Ambient Air @T <sub>A</sub> = 25°C (Note 3)	R <sub>θJA</sub>	833	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	50	—	—	V	I <sub>C</sub> = 50μA, I <sub>E</sub> = 0
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	50	—	—	V	I <sub>C</sub> = 1mA, I <sub>B</sub> = 0
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	5.0	—	—	V	I <sub>E</sub> = 50μA, I <sub>C</sub> = 0
Collector Cut-Off Current	I <sub>CBO</sub>	—	—	0.5	μA	V <sub>CB</sub> = 50V, I <sub>E</sub> = 0
Emitter Cut-Off Current	I <sub>EBO</sub>	—	—	0.5	μA	V <sub>EB</sub> = 4V, I <sub>C</sub> = 0
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)</sub>	—	—	0.3	V	I <sub>C</sub> = 10mA, I <sub>B</sub> = 1mA
DC Current Gain	h <sub>FE</sub>	100	330	600	—	V <sub>CE</sub> = 5V, I <sub>C</sub> = 1mA
Gain-Bandwidth Product (Note 4)	f <sub>T</sub>	—	250	—	MHz	V <sub>CE</sub> = 10V, I <sub>E</sub> = -5mA, f = 100MHz
Input Resistance	R <sub>1</sub>	7	10	13	kΩ	—

- Notes:
1. No purposefully added lead.
  2. Diodes Inc.'s "Green" policy can be found on our website at [http://www.diodes.com/products/lead\\_free/index.php](http://www.diodes.com/products/lead_free/index.php).
  3. Device mounted on FR-4 PCB; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  4. Characteristics of transistor. For reference only.

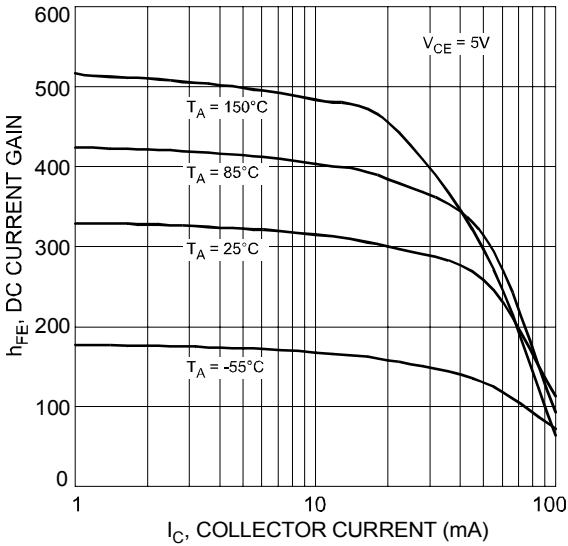


Fig. 1 Typical DC Current Gain vs. Collector Current

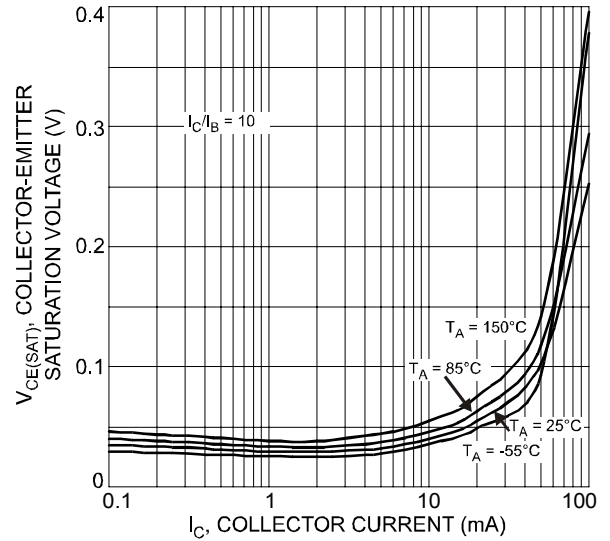


Fig. 2 Typical Collector-Emitter Saturation Voltage vs. Collector Current

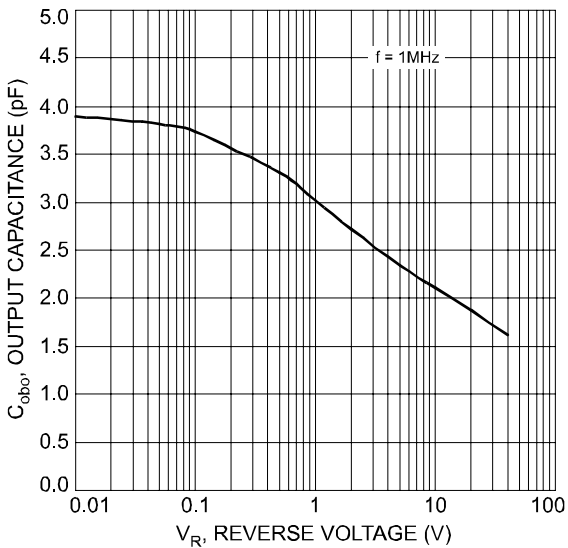


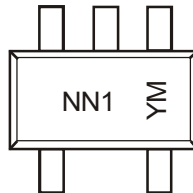
Fig. 3 Typical Output Capacitance Characteristics

## Ordering Information (Note 5)

Device	Packaging	Shipping
UMG4N-7	SOT-353	3000/Tape & Reel

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

## Marking Information



NN1 = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year ex: U = 2007  
 M = Month ex: 9 = September

### Date Code Key

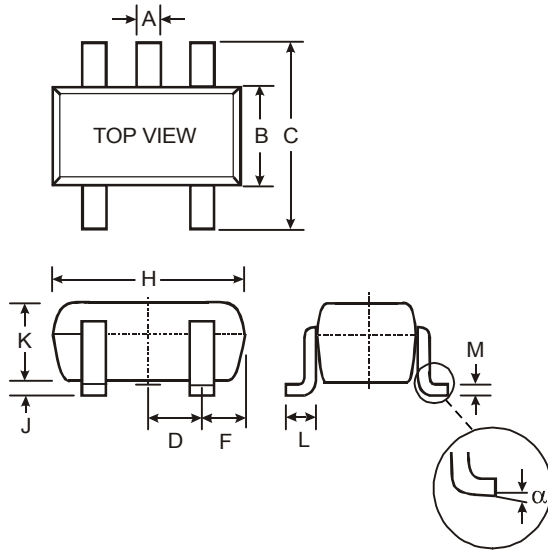
Year	2007	2008	2009	2010	2011	2012
Code	U	V	W	X	Y	Z

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

**Package Outline Dimensions**

NEW PRODUCT



SOT-353		
Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
F	0.30	0.40
H	1.80	2.20
J	—	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.25
$\alpha$	0°	8°
All Dimensions in mm		

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<http://moschip.ru/get-element>

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### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

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