



DVR5V0W

COMPLEX ARRAY FOR VOLTAGE REGULATORS

Features

- Epitaxial Planar Die Construction
- Selectively Paired NPN Transistors & Zener Diodes for Series Pass Voltage Regulator Circuits
- Ideally Suited for Automated Assembly Processes
- Lead, Halogen and Antimony Free, RoHS Compliant (Note 1)
- "Green" Device (Note 2)

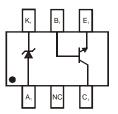
Mechanical Data

- Case: SOT363
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Weight: 0.006 grams (approximate)

SOT363



Top View



Top View Pin Configuration

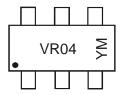
Ordering Information (Note 3)

Device	Packaging	Shipping
DVR5V0W-7	SOT363	3000/Tape & Reel

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.
- 3. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



VR04 = Product Type Marking Code YM = Date Code Marking Y = Year ex: Y = 2011 M = Month ex: 9 = September

Date Code Key

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	R	S	T	U	٧	W	Х	Υ	Z	Α	В	С

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D



Maximum Ratings, Total Device @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Value	Unit
Power Dissipation	(Note 4)	P_d	200	mW
Thermal Resistance, Junction to Ambient	(Note 4)	$R_{ hetaJA}$	625	°C/W
Operating and Storage Temperature Range		T _j , T _{STG}	-55 to +150	°C

Maximum Ratings, NPN Transistor @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	45	V
Collector-Emitter Voltage	V _{CEO}	18	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current - Continuous (Note 4	l _C	1	A

Maximum Ratings, Zener Element @T_A = 25°C unless otherwise specified

	Characteristic	Symbol	Value	Unit
Forward Voltage	@ I _F = 10mA	V _F	0.9	V

Electrical Characteristics, NPN Transistor @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 5)	•				
Collector-Base Breakdown Voltage	V _{(BR)CBO}	45	_	V	$I_C = 100 \mu A, I_E = 0$
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	18	_	V	$I_C = 1 \text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5	_	V	$I_E = 100 \mu A, I_C = 0$
Collector Cutoff Current	I _{CBO}	_	1	μА	V _{CB} = 40V, I _E = 0
Emitter Cutoff Current	I _{EBO}	_	1	μΑ	$V_{EB} = 4V, I_{C} = 0$
ON CHARACTERISTICS (Note 5)					
DC Current Gain	h _{FE}	150	800	_	$I_C = 100 \text{mA}, V_{CE} = 1 \text{V}$
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	_	0.5	V	$I_C = 300 \text{mA}, I_B = 30 \text{mA}$
SMALL SIGNAL CHARACTERISTICS					
Output Capacitance	C _{obo}		8	pF	$V_{CB} = 10V, f = 1.0MHz, I_E = 0$
Current Gain-Bandwidth Product	f _T	100	_	MHz	$V_{CB} = 10V, I_E = 50mA, f = 100MHz$

Electrical Characteristics, Zener Element @T_A = 25°C unless otherwise specified

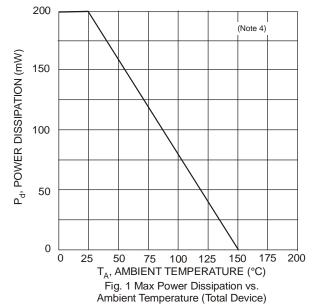
	Zener Voltage Range (Note 6)				Reverse Current 5)
	V _Z @ I _{ZT}			I _R @ \	V _R
Nom (V)	Min (V)	Max (V)	mA	μΑ	V
5.1	4.85	5.36	0.05	5	3

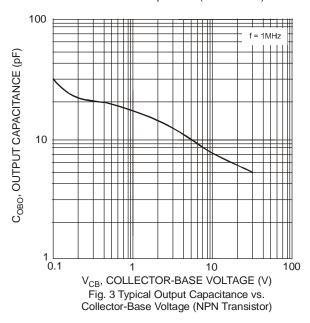
Notes: 4. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.

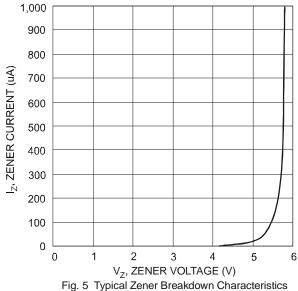
5. Short duration pulse test used to minimize self-heating effect.

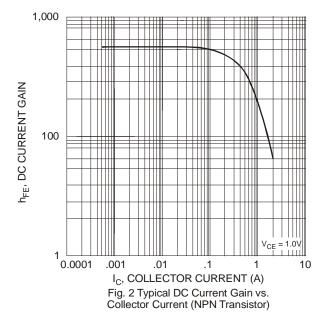
6. Nominal Zener voltage is measured with the device junction in thermal equilibrium at $T_T = 30^{\circ}\text{C} \pm 1^{\circ}\text{C}$.











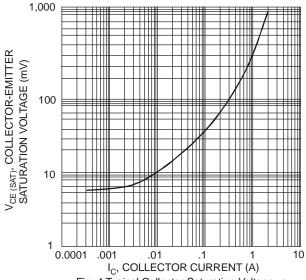
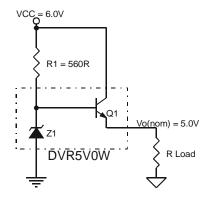


Fig. 4 Typical Collector Saturation Voltage vs. Collector Current (NPN Transistor)



Sample Applications



Sample Application for DVR5V0W:

 $V_{CC} = 6.0V$ R1= 560Ω

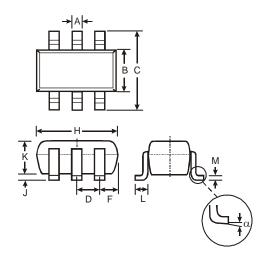
Vo(nom) = 5.0V $I_0 = 100mA$

Notes: 7. Resistor R1 not included.

8. Typical performance shown is under setup and operating conditions specified in the sample applications.

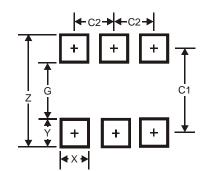
9. Recommended V_{CC}(min) ~ Vo(nom) + 1V.

Package Outline Dimensions



	SOT363						
Dim	Min	Max					
Α	0.10	0.30					
В	1.15	1.35					
С	2.00	2.20					
D	0.65 Typ						
F	0.40	0.45					
Н	1.80	2.20					
J	0	0.10					
K	0.90	1.00					
L	0.25	0.40					
М	0.10	0.22					
α	0°	8°					
All Dimensions in mm							

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.5
G	1.3
X	0.42
Y	0.6
C1	1.9
C2	0.65



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многоканальный

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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

Skype отдела продаж:

moschip.ru moschip.ru_6 moschip.ru 4 moschip.ru 9