





DUAL P-CHANNEL ENHANCEMENT MODE FIELD EFFECT TRANSISTOR

Features

- Low On-Resistance
- ESD Protected Gate to 500V
- Low Input Capacitance
- Fast Switching Speed
- Lead Free By Design/RoHS Compliant (Note 3)
- "Green" Device (Note 4)
- Qualified to AEC-Q 101 Standards for High Reliability

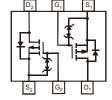
Mechanical Data

- Case: SOT-563
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish Matte Tin annealed over Copper leadframe.
 Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Marking Information: See Page 3
- Ordering Information: See Page 3
 - Weight: 0.006 grams (approximate)

SOT-563







TOP VIEW

TOP VIEW Internal Schematic

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units	
Drain-Source Voltage		V_{DSS}	-50	V
Drain-Gate Voltage (Note 1)		V_{DGR}	-50	V
Gate-Source Voltage	Continuous	V _{GSS}	±20	V
Drain Current (Note 2)	Continuous	I _D	-160	mA

Thermal Characteristics @TA = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units
Total Power Dissipation (Note 2)	P_{D}	400	mW
Thermal Resistance, Junction to Ambient (Note 2)	$R_{ hetaJA}$	313	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

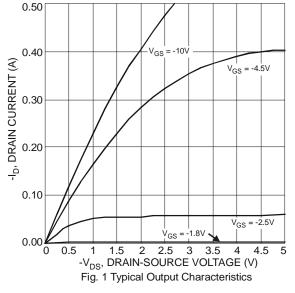
Electrical Characteristics @T_A = 25°C unless otherwise specified

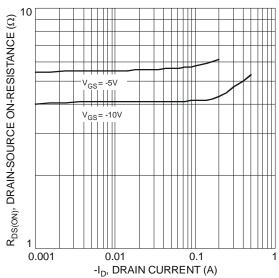
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 5)						
Drain-Source Breakdown Voltage	BV _{DSS}	-50	-		٧	$V_{GS} = 0V, I_D = -250\mu A$
Zero Gate Voltage Drain Current	I _{DSS}	_		-1	μΑ	$V_{DS} = -50V, V_{GS} = 0V$
Gate-Body Leakage	I _{GSS}	_		±5	μΑ	$V_{GS} = \pm 20V, V_{DS} = 0V$
ON CHARACTERISTICS (Note 5)						
Gate Threshold Voltage	V _{GS(th)}	-0.8		-2.1	٧	$V_{DS} = V_{GS}, I_{D} = -250 \mu A$
Static Drain-Source On-Resistance	R _{DS (ON)}		6	8	Ω	$V_{GS} = -5V, I_D = -0.100A$
Forward Transconductance		0.05			S	$V_{DS} = -25V, I_D = -0.1A$
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{iss}		27		рF	
Output Capacitance	Coss		4		рF	$V_{DS} = -25V$, $V_{GS} = 0V$, $f = 1.0MHz$
Reverse Transfer Capacitance	C _{rss}	_	1.4	_	pF	

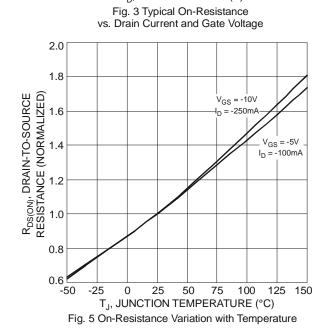
Notes:

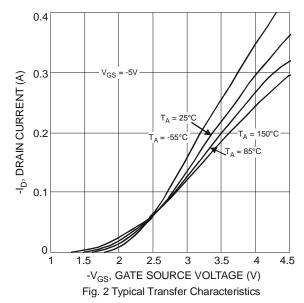
- 1. $R_{GS} \le 20K\Omega$
- 2. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
- 3. No purposefully added lead.
- 4. Diodes Inc's "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
- Short duration pulse test used to minimize self-heating effect.











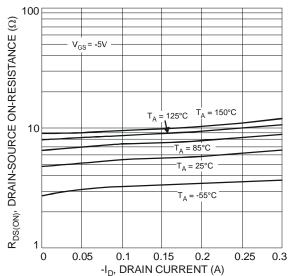
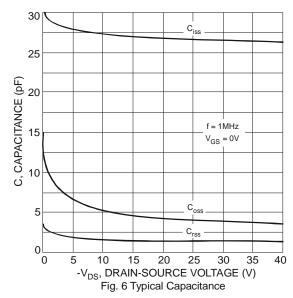


Fig. 4 Typical Drain-Source On-Resistance vs. Drain Current and Temperature





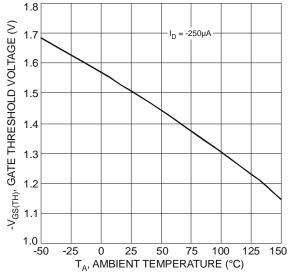
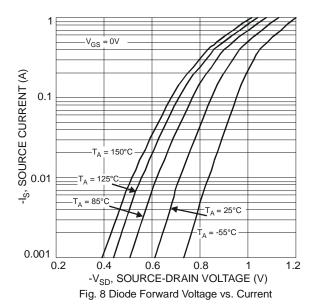


Fig. 7 Gate Threshold Variation vs. Ambient Temperature



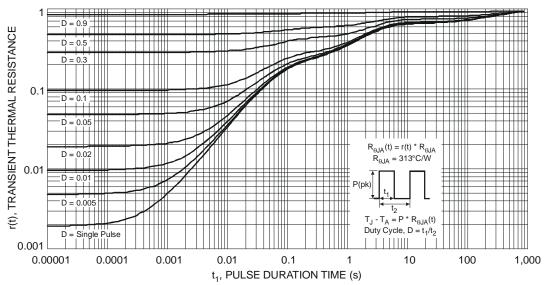


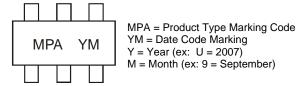
Fig. 9 Transient Thermal Response

Ordering Information (Note 6)

ĺ	Part Number	Case	Packaging		
	DMP58D0SV -7	SOT-563	3000/Tape & Reel		

Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information (Note 7)



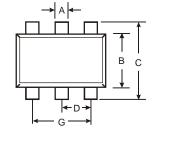
Date Code Key

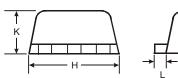
Year	2007	20	08	2009	2010	20)11	2012	2013	20	14	2015
Code	U	\	/	W	X	,	Y	Z	Α		В	С
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D

Notes: 7. Package is non-polarized. Parts may be on reel in orientation illustrated, 180° rotated, or mixed (both ways).



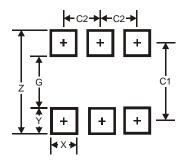
Package Outline Dimensions





SOT-563					
Dim	Min	Max	Тур		
Α	0.15	0.30	0.20		
В	1.10 1.25		1.20		
С	1.55	1.70	1.60		
D	-	-	0.50		
G	0.90	1.10	1.00		
Н	1.50	1.70	1.60		
K	0.55	0.60	0.60		
L	0.10	0.30	0.20		
M	0.10	0.18	0.11		
All	All Dimensions in mm				

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.2
G	1.2
Х	0.375
Y	0.5
C1	1.7
C2	0.5



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