

P-CHANNEL ENHANCEMENT MODE FIELD EFFECT TRANSISTOR

Features

- Low On-Resistance:
 - $R_{DS(ON)} < 100m\Omega @ V_{GS} = -4.5V, I_D = -2.7A$
 - R_{DS(ON)} < 215mΩ @ V_{GS} = -2.5V, I_D = -2.0A
- Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability

Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Weight: 0.008 grams (approximate)

TOP VIEW EQUIVALENT CIRCUIT TOP VIEW

SOT-23

Ordering Information (Note 4)

Part Number	Case	Packaging
DMP2215L-7	SOT-23	3000/Tape & Reel

No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green"

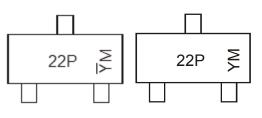
and Lead-free.

Notes:

3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

4. For packaging details, go to our website at http://www.diodes.com/products/packages.html

Marking Information



Chengdu A/T Site Shanghai A/T Site

22P = Product Type Marking Code YM = Date Code Marking for SAT (Shanghai Assembly/ Test site) $\overline{Y}M$ = Date Code Marking for CAT (Chengdu Assembly/ Test site) Y or \overline{Y} = Year (ex: A = 2013) M = Month (ex: 9 = September)

Date Code Key												
Year	2007	2008	2009	2010) 201	1 20	012	2013	2014	2015	2016	2017
Code	U	V	W	Х	Y		Z	А	В	С	D	E
Month	Jan	Feb	Mar	Apr	Мау	Jun	Ju	l Au	g Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D



Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Chara	acteristic		Symbol	Value	Units
Drain-Source Voltage			V _{DSS}	V	
Gate-Source Voltage			V _{GSS}	±12	V
Drain Current (Note 5)	Steady State	T _A = 25°C T _A = 70°C	ID	-2.7 -2	A
Pulsed Drain Current (Note 6)			I _{DM}	8	А

Thermal Characteristics

Characteristic	Symbol	Value	Units
Total Power Dissipation (Note 5)	PD	1.08	W
Thermal Resistance, Junction to Ambient @T _A = +25°C (Note 5)	$R_{ ext{ heta}JA}$	115	°C/W
Operating and Storage Temperature Range	T _{J,} T _{STG}	-55 to +150	°C

 5. Device mounted on FR-4 PCB. t ≤5 sec.
6. Pulse width ≤10µS, Duty Cycle ≤1%. Notes:

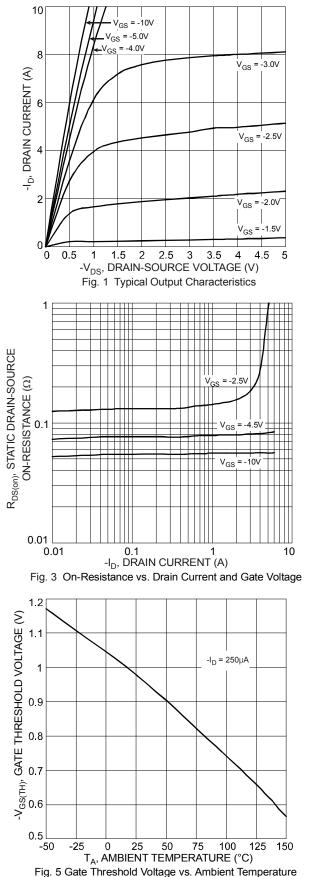
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

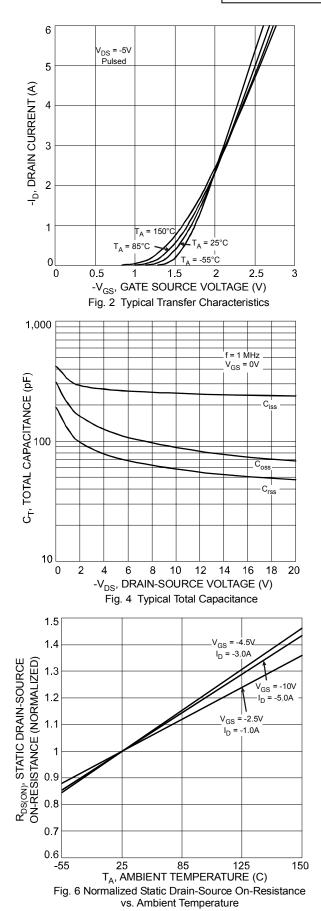
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition	
OFF CHARACTERISTICS (Note 7)						·	
Drain-Source Breakdown Voltage	BV _{DSS}	-20			V	V _{GS} = 0V, I _D = -250µA	
Zero Gate Voltage Drain Current	I _{DSS}	_		-800	nA	V_{DS} = -20V, V_{GS} = 0V	
On-State Drain Current		-6			А	$V_{DS} \le -5V, V_{GS} = -4.5V$	
	I _{D(ON)}	-3		_	A .	$V_{DS} \le -5V, V_{GS} = -2.5V$	
Gate-Source Leakage	I _{GSS}	_		±80	nA	$V_{GS} = \pm 12V, V_{DS} = 0V$	
ON CHARACTERISTICS (Note 7)						·	
Gate Threshold Voltage	V _{GS(th)}	-0.45		-1.25	V	$V_{DS} = V_{GS}, I_D = -250 \mu A$	
Static Drain-Source On-Resistance		_	80	100	mΩ	V _{GS} = -4.5V, I _D = -2.7A	
	R _{DS (ON)}		165	215	11122	V_{GS} = -2.5V, I_{D} = -2.0A	
Forward Transfer Admittance	Y _{fs}		4		S	V _{DS} = -5V, I _D = -2.7A	
Diode Forward Voltage (Note 7)	V _{SD}			-1.26	V V _{GS} = 0V, I _S = -2.7A		
DYNAMIC CHARACTERISTICS (Note 8)							
Input Capacitance	Ciss		250		pF		
Output Capacitance	C _{oss}		88		pF	V _{DS} = -10V, V _{GS} = 0V f = 1.0MHz	
Reverse Transfer Capacitance	C _{rss}		58		pF	1 - 1.00012	
Gate Resistance	Rg		12	16	Ω	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$	
Total Gate Charge	Qg	_	4.3	5.3			
Gate-Source Charge	Q _{gs}		0.9		nC	V _{GS} = -4.5V, V _{DS} = -10V, I _D = -2.7A	
Gate-Drain Charge	Q _{gd}		2.1		1		

 Short duration pulse test used to minimize self-heating effect.
Guaranteed by design. Not subject to product testing. Notes:



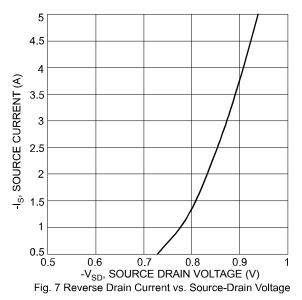






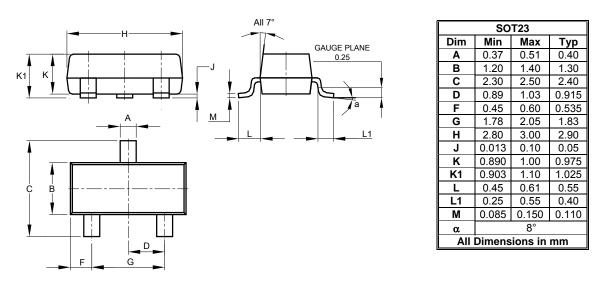
DMP2215L Document number: DS31125 Rev. 8 - 2





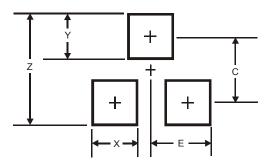
Package Outline Dimensions

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



Dimensions	Value (in mm)
Z	2.9
Х	0.8
Y	0.9
С	2.0
E	1.35



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