P-Channel 20-V (D-S) MOSFET

Key Features:

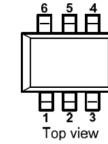
- Low r_{DS(on)} trench technology
- · Low thermal impedance
- · Fast switching speed

Typical Applications:

- Battery Powered Instruments
- Portable Computing
- Mobile Phones
- · GPS Units and Media Players

Pb-free	
RoHS COMPLIANT HALOGEN	

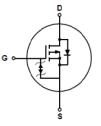
PRODUCT SUMMARY			
Vds (V)	$r_{DS(on)}(m\Omega)$	I⊳(A)	
-20	34 @ V _{GS} = -4.5V	-5	
-20	48 @ V _{GS} = -2.5V	-3	



T_A=25°C

 P_{D}

T_J, T_{stq}



Drain: 1,2,5,6 Gate: 3

TSOP6

Source: 4

1.40

-55 to 150

W °C

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^{\circ}C$ UNLESS OTHERWISE NOTED)					
Parameter		Symbol	Limit	Units	
Drain-Source Voltage		V _{DS}	-20	V	
Gate-Source Voltage		V _{GS}	±12	V	
Constitution Desire Consent ^a	T _A =25°C	I	-5		
Continuous Drain Current ^a	T _A =100°C	I _D	-3.3	A	
Pulsed Drain Current ^b	-	I _{DM}	-20	1	
Continuous Source Current (Diode Conduction) ^a		ا _s	-1	А	

THERMAL RESISTANCE RATINGS				
Parameter		Symbol	Maximum	Units
Maximum Junction-to-Ambient ^a	t <= 10 sec	R _{eja}	62.5	°C/W
	Steady State	' ` θJA	110	C/ VV

Notes

Power Dissipation^a

a. Surface Mounted on 1" x 1" FR4 Board.

Operating Junction and Storage Temperature Range

b. Pulse width limited by maximum junction temperature

Electrical Characteristics

Parameter	Symbol	Test Conditions	Min	Тур	Max	Unit
Static						
Gate-Source Threshold Voltage	V _{GS(th)}	$V_{DS} = V_{GS}, I_{D} = -250 \text{ uA}$	-20			V
Gate-Body Leakage	I _{GSS}	$V_{DS} = 0 V, V_{GS} = \pm 12 V$			±10	uA
Zero Gate Voltage Drain Current		$V_{DS} = -16 \text{ V}, V_{GS} = 0 \text{ V}$			-1	uA
	DSS	$V_{DS} = -16 \text{ V}, V_{GS} = 0 \text{ V}, T_{J} = 85^{\circ}\text{C}$			-30	
On-State Drain Current	I _{D(on)}	$V_{DS} = -5 \text{ V}, \text{ V}_{GS} = -4.5 \text{ V}$	10			Α
Drain-Source On-Resistance	r	$V_{GS} = -4.5 \text{ V}, \text{ I}_{D} = -5 \text{ A}$			34	mΩ
Drain-Source On-Resistance	r _{DS(on)}	$V_{GS} = -2.5 \text{ V}, \text{ I}_{D} = -3 \text{ A}$			48	11152
Forward Transconductance	g _{fs}	$V_{DS} = -15 \text{ V}, \text{ I}_{D} = -5 \text{ A}$		10		S
Diode Forward Voltage	V _{SD}	$I_{S} = -1.0 \text{ A}, V_{GS} = 0 \text{ V}$		-0.7		V
	Dynamic					
Total Gate Charge	Qg			16		
Gate-Source Charge	Q_gs	$V_{DS} = -10 \text{ V}, \text{ V}_{GS} = -4.5 \text{ V}, \text{ I}_{D} = -5 \text{ A}$		4		nC
Gate-Drain Charge	Q _{gd}			5		
Turn-On Delay Time	t _{d(on)}			6		
Rise Time	t _r	V_{DD} = -10 V, R_L = 10 Ω , I_D = -1 A,		12		20
Turn-Off Delay Time	t _{d(off)}	V_{GEN} = -4.5 V, R_{GEN} = 6 Ω		75		ns
Fall Time	t _f			38		
Input Capacitance	C _{iss}			1450		
Output Capacitance	C _{oss}	V_{DS} = -10 V, V_{GS} = 0 V, f = 1 MHz		200		pF
Reverse Transfer Capacitance	C _{rss}			165		

Notes

- a. Pulse test: PW <= 300us duty cycle <= 2%.
- b. Guaranteed by design, not subject to production testing.

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On Resistance

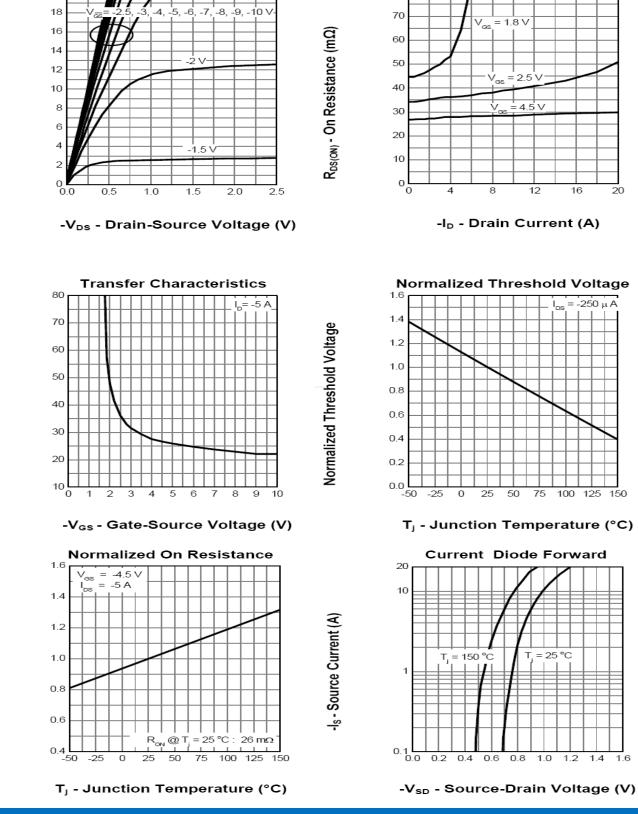


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Output Characteristics

-l_D - Drain Current (A)

 $R_{DS(ON)}$ - On Resistance (m Ω)

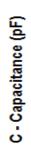


Normalized On Resistance

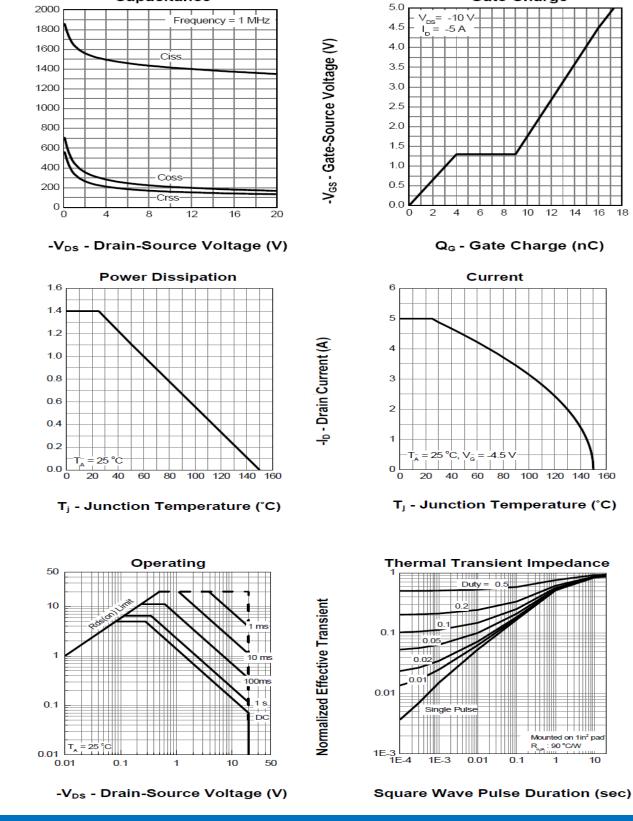
Gate Charge

Typical Electrical Characteristics

Capacitance



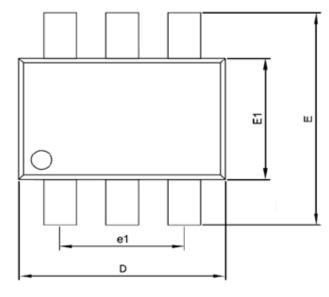
P_{tot} - Power (W)

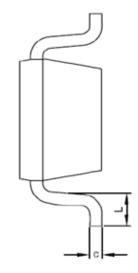


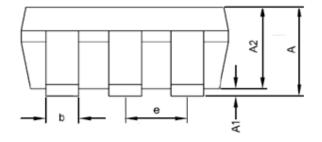
-I_D - Drain Current (A)

Package Information

TSOP6







Symphol	Dimensions In Millimeters		
Symbol	MIN.	MAX.	
A	1.45		
A1		0.15	
A2	0.9	1.3	
D	2.90 BSC		
E	2.890 BSC		
E1	1.5	1.7	
С	0.08	0.25	
b	0.3	0.5	
е	0.95BSC		
e1	1.90BSC		
L	0.3	0.6	