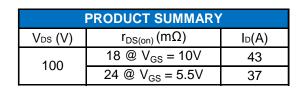
N-Channel 100-V (D-S) MOSFET

Key Features:

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

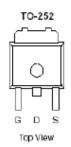
Typical Applications:

- White LED boost converters
- Automotive Systems
- Industrial DC/DC Conversion Circuits



in





ABSOLUTE MAXIMUM RATINGS ($T_A = 25^{\circ}C$ UNLESS OTHERWISE NOTED)						
Parameter		Symbol	Limit	Units		
Drain-Source Voltage		V_{DS}	100	V		
Gate-Source Voltage			±20	V		
Continuous Drain Current ^a	T _C =25°C	I _D	43	А		
Pulsed Drain Current ^b		I _{DM}	160	A		
Continuous Source Current (Diode Conduction) ^a		۱ _s	55	А		
Power Dissipation ^a	T _C =25°C	PD	50	W		
Operating Junction and Storage Temperature Range		T _J , T _{stg}	-55 to 150	°C		

THERMAL RESISTANCE RATINGS					
Parameter	Symbol	Maximum	Units		
Maximum Junction-to-Ambient ^a	$R_{ extsf{ heta}JA}$	40	°C/W		
Maximum Junction-to-Case	$R_{\theta JC}$	3	C/ VV		

Notes

- a. Surface Mounted on 1" x 1" FR4 Board.
- b. Pulse width limited by maximum junction temperature

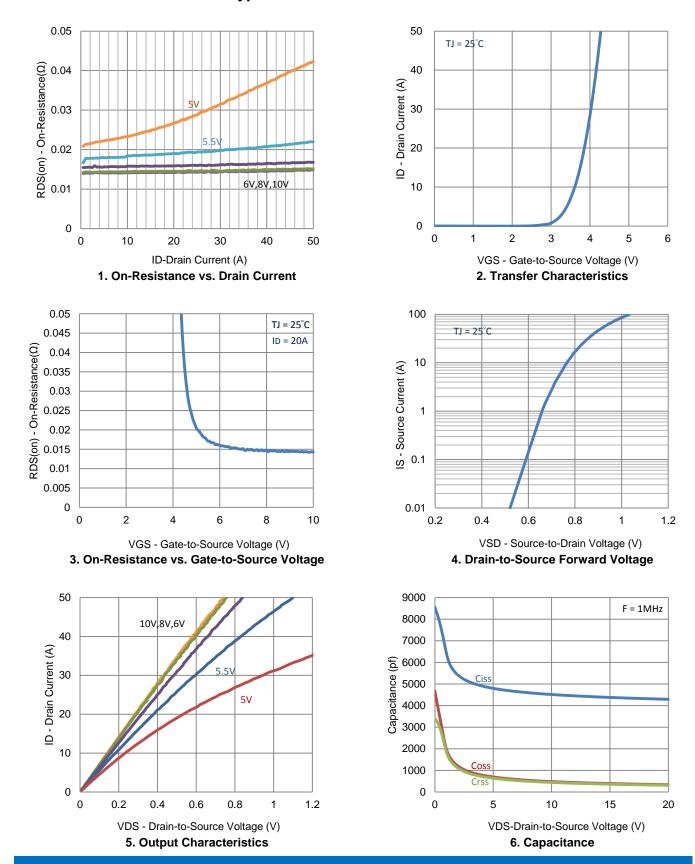
Electrical Characteristics

Parameter	Symbol	Test Conditions	Min	Тур	Max	Unit	
Static							
Gate-Source Threshold Voltage	V _{GS(th)}	$V_{DS} = V_{GS}, I_D = 250 \text{ uA}$	1			V	
Gate-Body Leakage	I _{GSS}	$V_{DS} = 0 V, V_{GS} = \pm 20 V$			±100	nA	
Zero Gate Voltage Drain Current		$V_{DS} = 80 \text{ V}, V_{GS} = 0 \text{ V}$			1 uA		
	IDSS	$V_{DS} = 80 \text{ V}, V_{GS} = 0 \text{ V}, T_{J} = 55^{\circ}\text{C}$	', V _{GS} = 0 V, T _J = 55°C		25	u A	
On-State Drain Current	I _{D(on)}	$V_{DS} = 5 V, V_{GS} = 10 V$	50			А	
Drain-Source On-Resistance	r	$V_{GS} = 10 \text{ V}, \text{ I}_{D} = 20 \text{ A}$			18		
	r _{DS(on)}	$V_{GS} = 5.5 \text{ V}, \text{ I}_{D} = 16 \text{ A}$			24	mΩ	
Forward Transconductance	g _{fs}	$V_{DS} = 15 \text{ V}, \text{ I}_{D} = 20 \text{ A}$		22		S	
Diode Forward Voltage	V_{SD}	I _S = 27.5 A, V _{GS} = 0 V		0.85		V	
		Dynamic					
Total Gate Charge	Qg			60		nC	
Gate-Source Charge	Q_gs	$V_{DS} = 50 \text{ V}, \text{ V}_{GS} = 5.5 \text{ V},$ $I_{D} = 20 \text{ A}$		15			
Gate-Drain Charge	Q_gd	$I_{\rm D} = 20$ A		36			
Turn-On Delay Time	t _{d(on)}			19			
Rise Time	t _r	$V_{DS} = 50 \text{ V}, \text{ R}_{L} = 2.5 \Omega,$ $I_{D} = 20 \text{ A},$		42		ns	
Turn-Off Delay Time	t _{d(off)}	i _D = 20 A, V _{GEN} = 10 V, R _{GEN} = 6 Ω		129			
Fall Time	t _f	$v_{\text{GEN}} = 10$ v , $N_{\text{GEN}} = 0.22$		46			
Input Capacitance	C _{iss}			4376			
Output Capacitance	C _{oss}	$V_{DS} = 15 \text{ V}, V_{GS} = 0 \text{ V}, f = 1 \text{ MHz}$		389		pF	
Reverse Transfer Capacitance	C _{rss}			358			

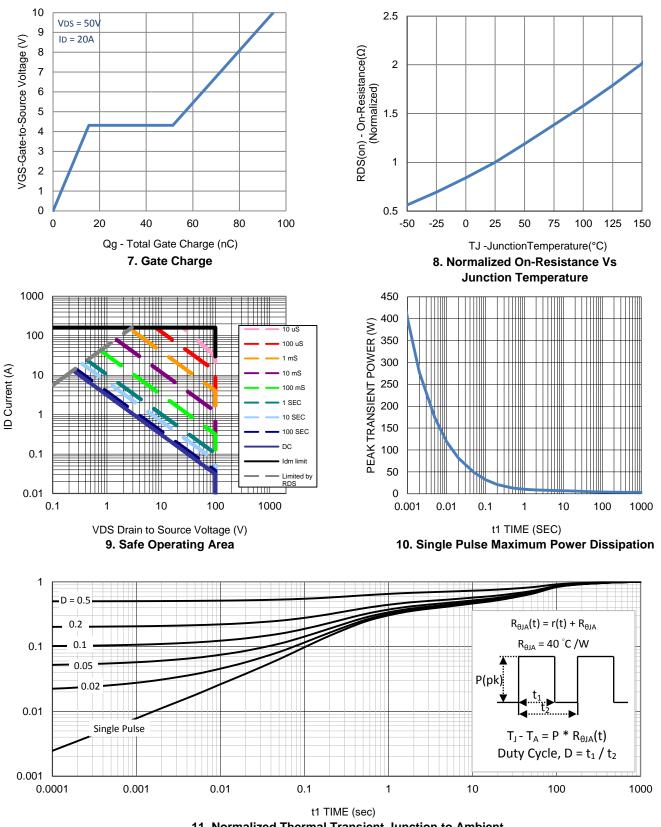
Notes

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

Analog Power (APL) reserves the right to make changes without further notice to any products herein. APL makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does APL assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in APL data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. APL does not convey any license under its patent rights nor the rights of others. APL products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the APL product could create a situation where personal injury or death may occur. Should Buyer purchase or use APL products for any such unintended or unauthorized application, Buyer shall indemnify and hold APL and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that APL was negligent regarding the design or manufacture of the part. APL is an Equal Opportunity/Affirmative Action Employer.



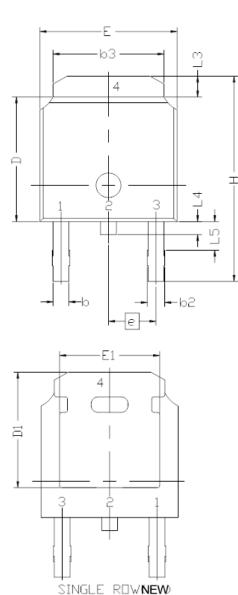
Typical Electrical Characteristics

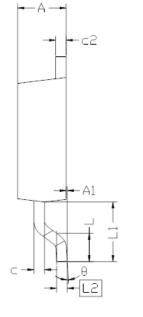


Typical Electrical Characteristics

11. Normalized Thermal Transient Junction to Ambient

Package Information





	DIMENS:		REQMIS	
SYMBOL	MIN	NDM	MAX	
E	6.40	6.60	6.731	
L	1.40	1.52	1.77	
L1			EF	
L2	0.	508 BS		
L3	0.89		1.27	
L4	0.64		1.01	
L5				
D	6.00	6.10	6.223	
Н	9.40	10.00	10.40	
b	0.64	0.76	0.88	
b2	0.77	0.84	1.14	
b3	5.21	5.34	5.46	
e	2.286 BSC			
A	2.20	2.30	2.38	
A1	0		0.127	
C	0.45	0.50	0.60	
c2	0.45	0.50	0,58	
D1	5.30			
E1	4.40			
θ	0°		10°	

Note:

- 1. All Dimension Are In mm.
- 2. Package Body Sizes Exclude Mold Flash, Protrusion Or Gate Burrs. Mold Flash, Protrusion Or Gate Burrs Shall Not Exceed 0.10 mm Per Side.
- 3. Package Body Sizes Determined At The Outermost Extremes Of The Plastic Body Exclusive Of Mold Flash, Gate Burrs And Interlead Flash, But Including Any Mismatch Between The Top And Bottom Of The Plastic Body.