Description

JMT N-channel Enhancement Mode Power MOSFET

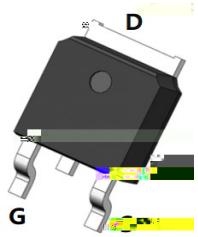
Features

- 30V, 40A
- R
- Lead Free

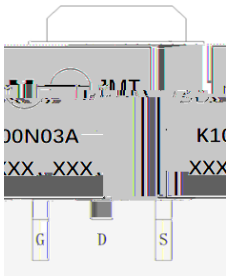
Applications

- Load Switch
- PWM Application
- Power Management

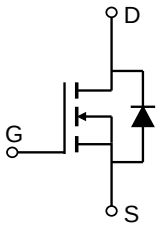
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TO-252-3L(DPAK) Top View



Marking and Pin Assignment



Schematic Diagram

Package Marking and Ordering Information

Device Marking	Device		Package			
JMTK100N03A	JMTK100N03A		TO-252-3L			

Absolute Maximum Ratings (@ T_C = 25℃ unless otherwise specified)

	Parameter		Value	
	Drain-to-Source Voltage		30	
	Gate-to-Source Voltage		–20	
I_D	Continuous Drain Current		40	A
		$_C$ = 100℃	25	
I_{DM}	Pulsed Drain Current (1)		160	A
E_{AS}	Single Pulsed Avalanche Energy (2)		36	mJ
P_D	Power Dissipation	T_C = 25℃	69	W
R $_{-\$}$	Thermal Resistance, Junction to Ambient(3)		32	℃/W
R $_{-\&}$	Thermal Resistance, Junction to Case		1.8	
T_J, T_{STG}	Junction & Storage Temperature Range		-55 to 150	℃

Electrical Characteristics (T_J = 25℃ unless otherwise specified)

Symbol	Conditions	Min.	Typ.	Max.	Unit
Off Characteristics					
$V_{(BR)DSS}$		30	-	-	V
I_{DSS}		-	-	1.0	μA
I_{GSS}		-	-	–100	nA
$V_{GS(th)}$		1.2	1.6	2.2	V
		-	7.8	10.0	mΩ
		-	11.5	15.0	mΩ
C_{iss}		-			
		-			
		C			

Typical Performance Characteristics

Figure 1: Output Characteristics

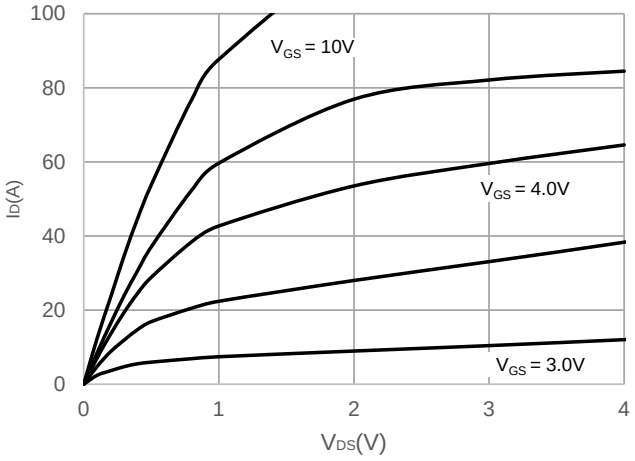
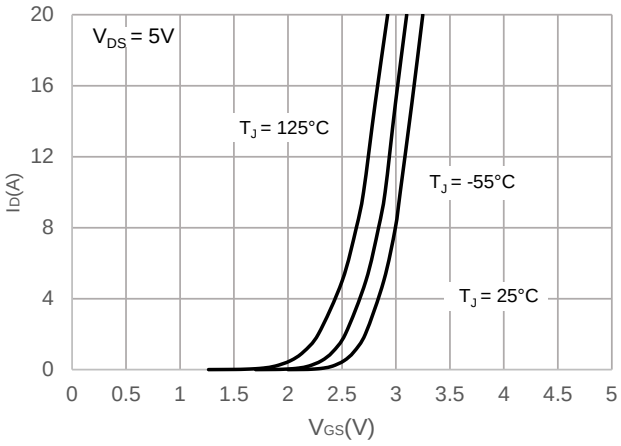


Figure 2: Typical Transfer Characteristics



Typical Performance Characteristics

Figure 7: Normalized Breakdown voltage vs. Junction Temperature

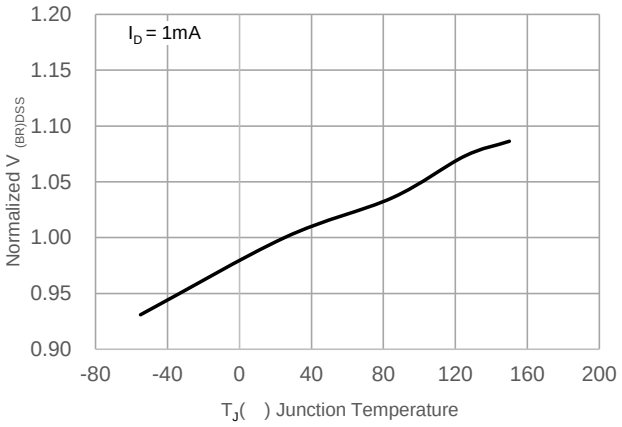
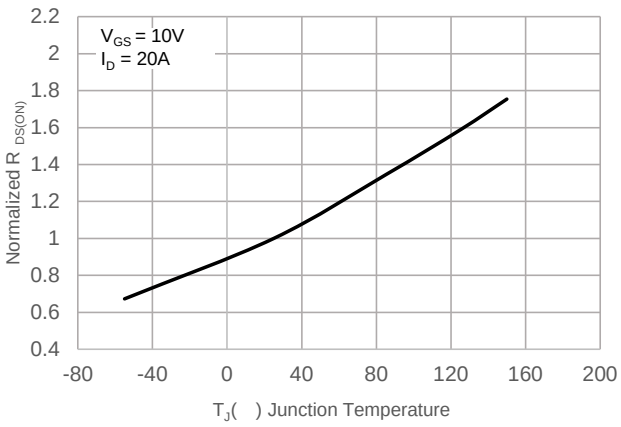


Figure 8: Normalized on Resistance vs. Junction Temperature



Test Circuit

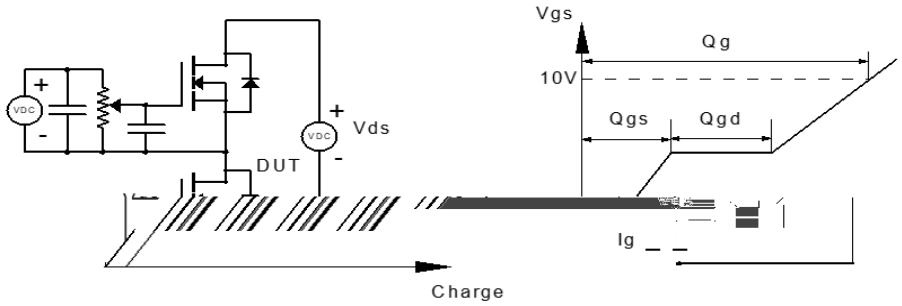


Figure 1: Gate Charge Test Circuit & Waveform

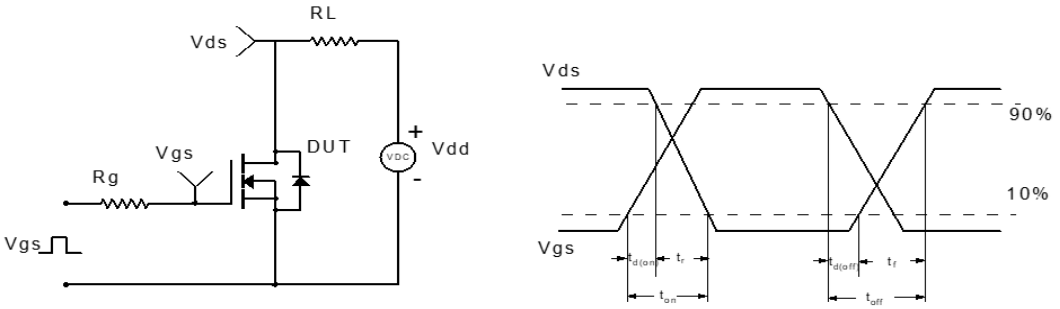


Figure 2: Resistive Switching Test Circuit & Waveform

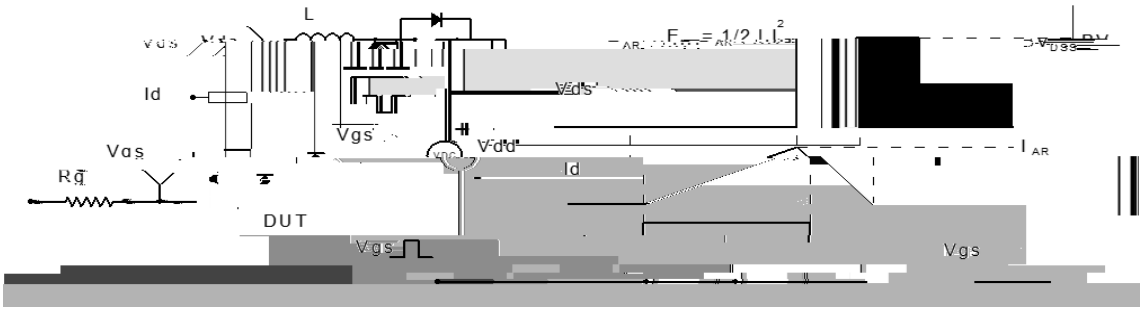


Figure 3: Unclamped Inductive Switching Test Circuit& Waveform

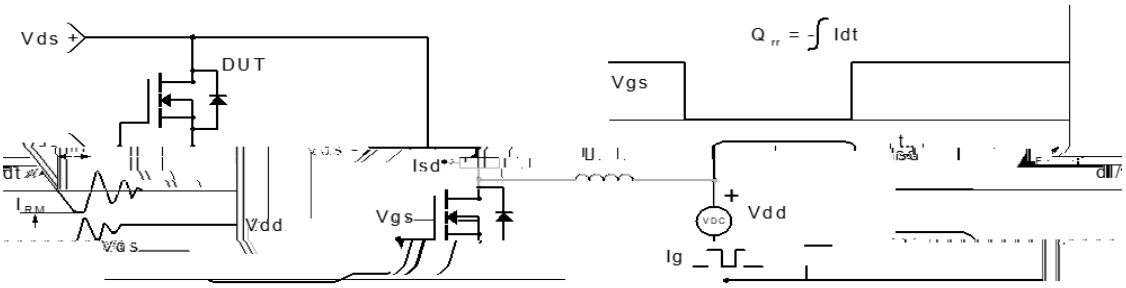
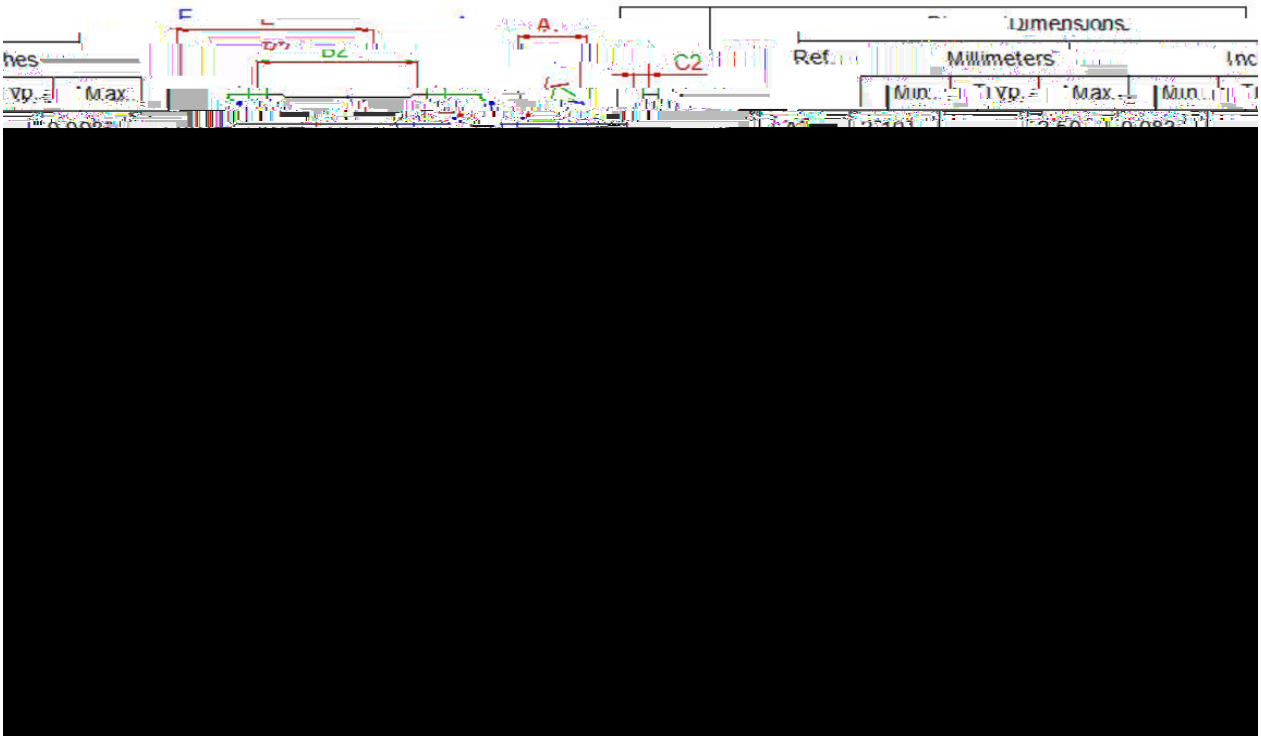


Figure 4: Diode Recovery Test Circuit & Waveform

Package Mechanical Data(TO-252-3L)



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