JMTG100N03B-P

Features

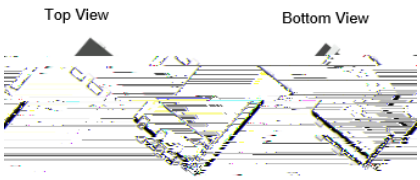
- Excellent $R_{DS(ON)}$ and Low Gate Charge
- 100% UIS Tested
- 100% Vds Tested
- Halogen-free; RoHS-compliant

Applications

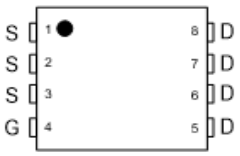
- Load Switch
- PWM Application
- Power Management

Product Summary

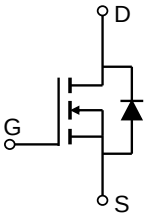
Parameters	Value	Unit
V_{DSS}	30	V
$V_{GS(th)\_Typ}$	1.6	V
I_D(@V_{GS}=10V)	44	A
$R_{DS(ON)\_Typ}$(@V_{GS}=10V	6.9	mΩ



PDFN5X6-8L



Pin Assignment



Schematic Diagram

Ordering Information

Device	Marking	MSL	Form	Package	Reel(pcs)	Per Carton (pcs)
JMTG100N03B-P	G100N03B	1	Tape&Reel	PDFN5x6-8L	5000	50000

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

Symbol	Parameter		Value	Unit
V_{DS}	Drain-to-Source Voltage		30	V
V_{GS}	Gate-to-Source Voltage		±20	V
I_D	Continuous Drain Current	T_C = 25°C	44	A
		T_C = 100°C	28	
I_{DM}	Pulsed Drain Current [1]		Refer to Fig.4	A
E_{AS}	Single Pulsed Avalanche Energy [2]		31	mJ
P_D	Power Dissipation	T_C = 25°C	30	W
		T_C = 100°C	12	
T_J, T_{STG}	Junction & Storage Temperature Range		-55 to 150	°C

Thermal Characteristics

Symbol	Parameter	Max	Unit
R	Thermal Resistance, Junction to Ambient[3]	49	°C/W
R	Thermal Resistance, Junction to Case	4.2	

Electrical Characteristics (T_J = 25°C 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
$V_{GS(th)}$		1.1	1.6	2.1	V
		-	61 477.1 Q EMC /P AMCID 21/Lang		

Typical Performance Characteristics

Figure 1: Power De-rating

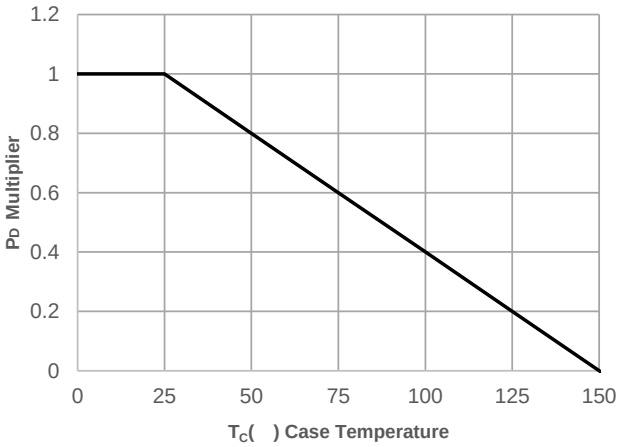
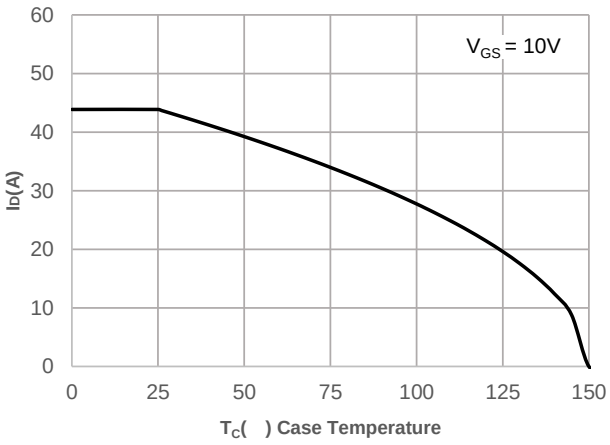
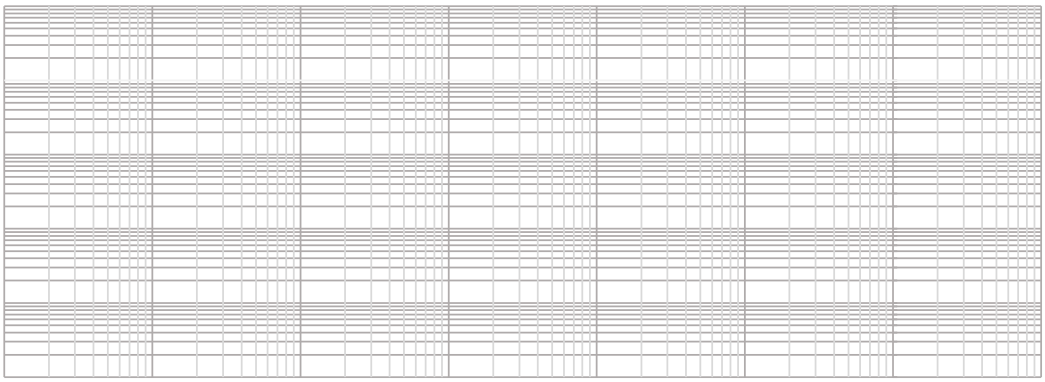
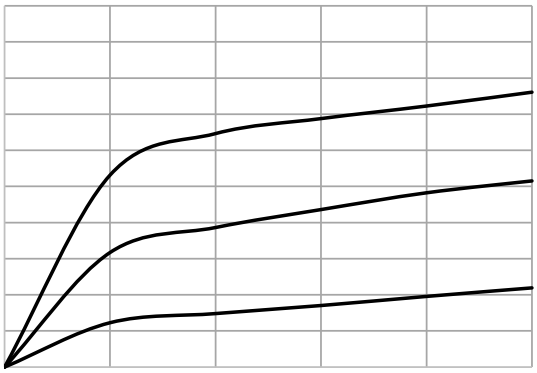


Figure 2: Current De-rating





Typical Performance Characteristics



Typical Performance Characteristics

Figure 11: Normalized Breakdown voltage vs. Junction Temperature

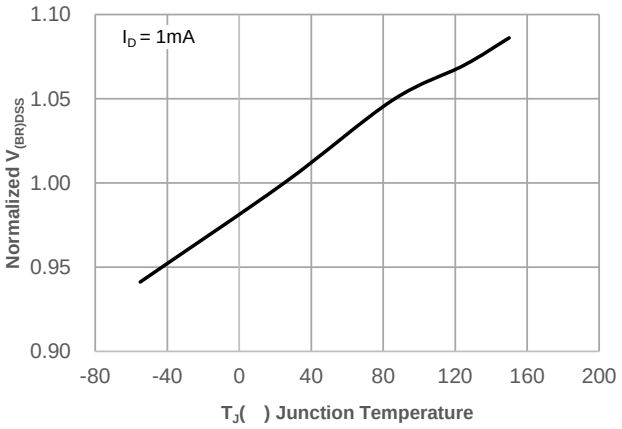


Figure 12: Normalized on Resistance vs. Junction Temperature

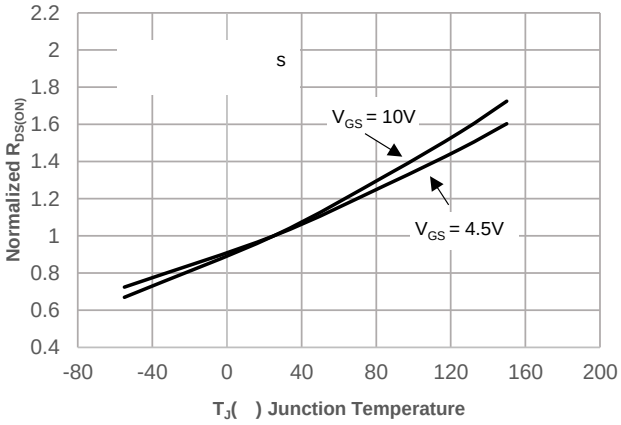


Figure 13: Normalized Threshold Voltage vs. Junction Temperature

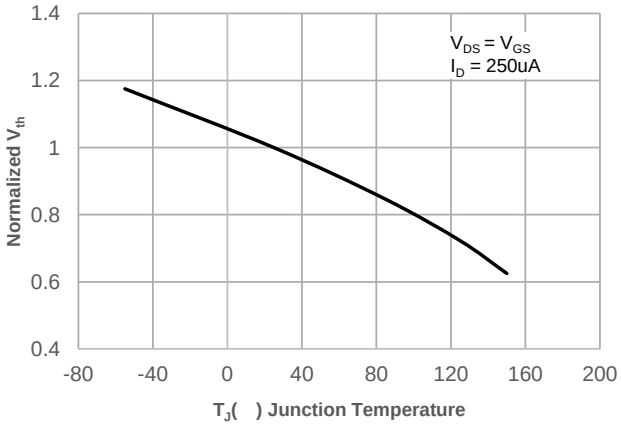


Figure 14: $R_{DS(ON)}$ vs. V_{GS}

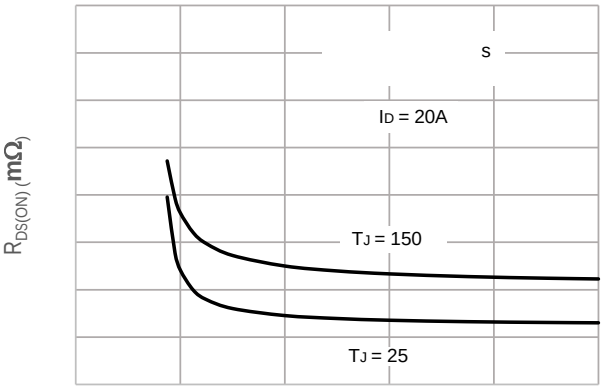
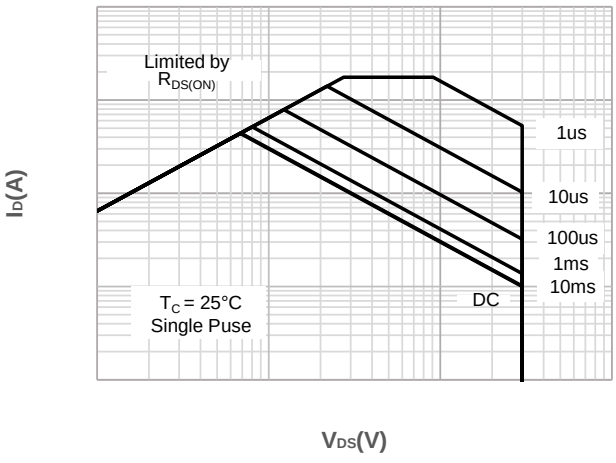


Figure 15: Maximum Safe Operating Area



Test Circuit

Figure 1: Gate Charge Test Circuit & Waveform

Package Mechanical Data(PDFN5X6-8L)