

JMTC030N06D

Features

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

Applications

Load Switch
PWM Application
Power Management

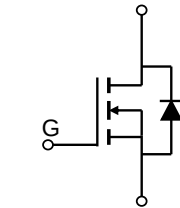
Product Summary

Parameters	Value	Unit
V_{DS}	60	V
$V_{GS(th)}_{Typ}$	3.0	V
$I_D(@V_{GS}=10V)$	204	A
$R_{DS(ON)}_{Typ}(@V_{GS}=10V)$	2.8	m Ω



TO-220-3L

Pin Assignment



Schematic Diagram

Ordering Information

Device	Marking	MSL	Form	Package	Tube(pcs)	Per Carton (pcs)
JMTC030N06D	JMTC030N06D	N/A	Tube	TO-220-3L	50	5000

Absolute Maximum Ratings (@ $T_C = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Value	Unit
V_{DS}	Drain-to-Source Voltage	60	V
V_{GS}	Gate-to-Source Voltage	± 20	V
I_D	Continuous Drain Current	$T_C = 25^\circ\text{C}$	A
		$T_C = 100^\circ\text{C}$	
I_{DM}	Pulsed Drain Current ⁽¹⁾	204	A
E_{AS}	Single Pulsed Avalanche Energy ⁽²⁾	129	mJ
P_D	Power Dissipation	Refer to Fig.4	W
		$T_C = 25^\circ\text{C}$	
T_J, T_{STG}	Junction & Storage Temperature Range	$T_C = 100^\circ\text{C}$	$^\circ\text{C}$
		653	
T_J, T_{STG}	Junction & Storage Temperature Range	$T_C = 25^\circ\text{C}$	$^\circ\text{C}$
		108	

Thermal Characteristics

Symbol	Parameter	Max	Unit
R	Thermal Resistance, Junction to Ambient ⁽³⁾	65	$^\circ\text{C/W}$
R	Thermal Resistance, Junction to Case	0.5	

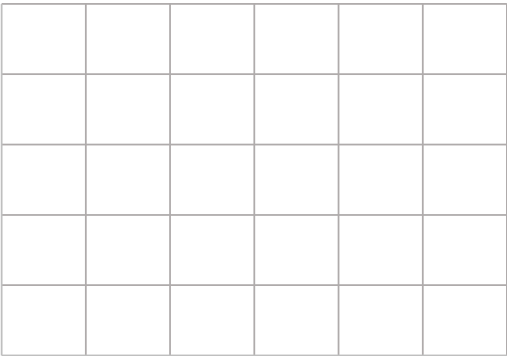
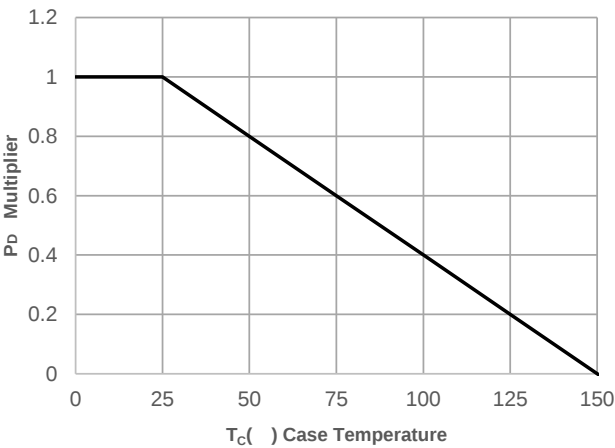
Electrical Characteristics (T_J = 25°C unless otherwise specified)

Symbol	Conditions	Min.	Typ.	Max.	Unit
Off Characteristics					
$V_{(BR)DSS}$		60	-	-	V
I_{DSS}		-	-	1.0	μA
I_{GSS}		-	-	± 100	nA

 $V_{GS(th)}$

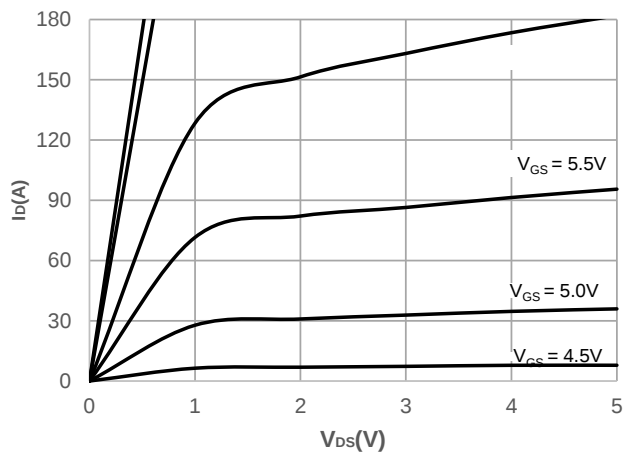
Typical Performance Characteristics

Figure 1: Power De-rating

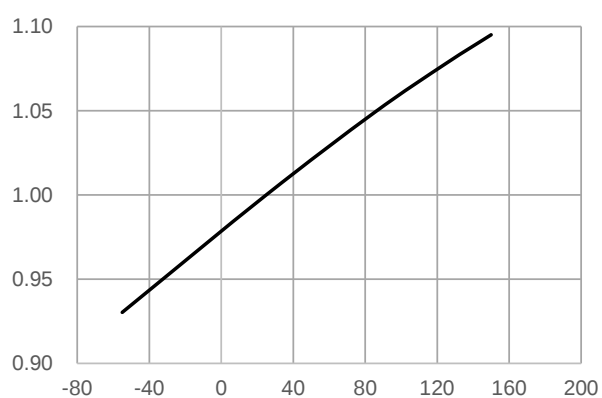


Typical Performance Characteristics

Figure 5: Output Characteristics



Typical Performance Characteristics



Test Circuit



Figure 1: Gate Charge Test Circuit & Waveform

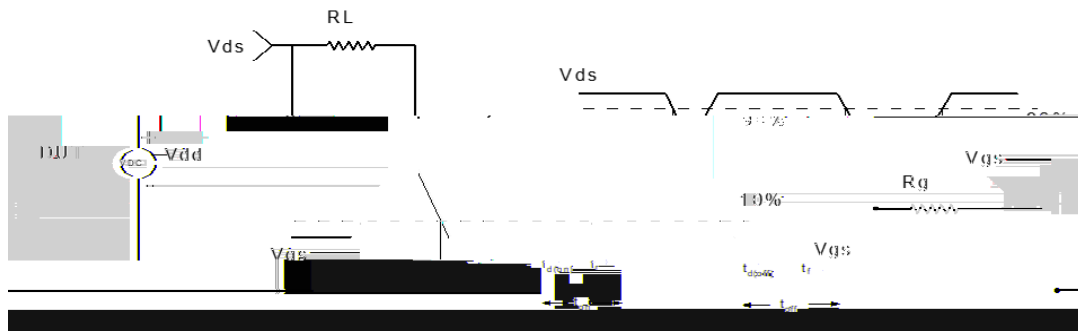


Figure 2: Resistive Switching Test Circuit & Waveform

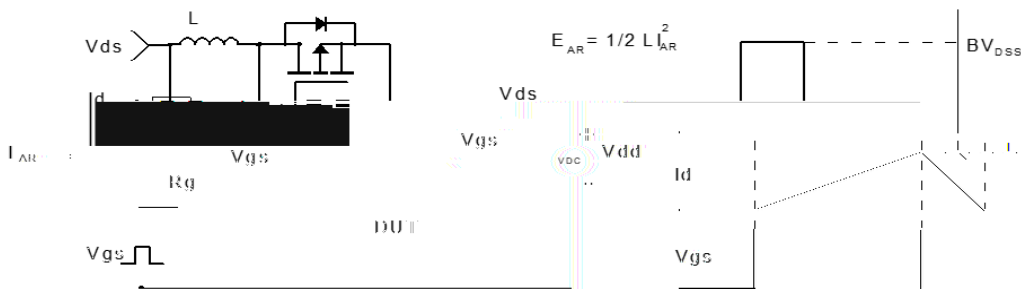
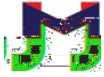


Figure 3: Unclamped Inductive Switching Test Circuit & Waveform

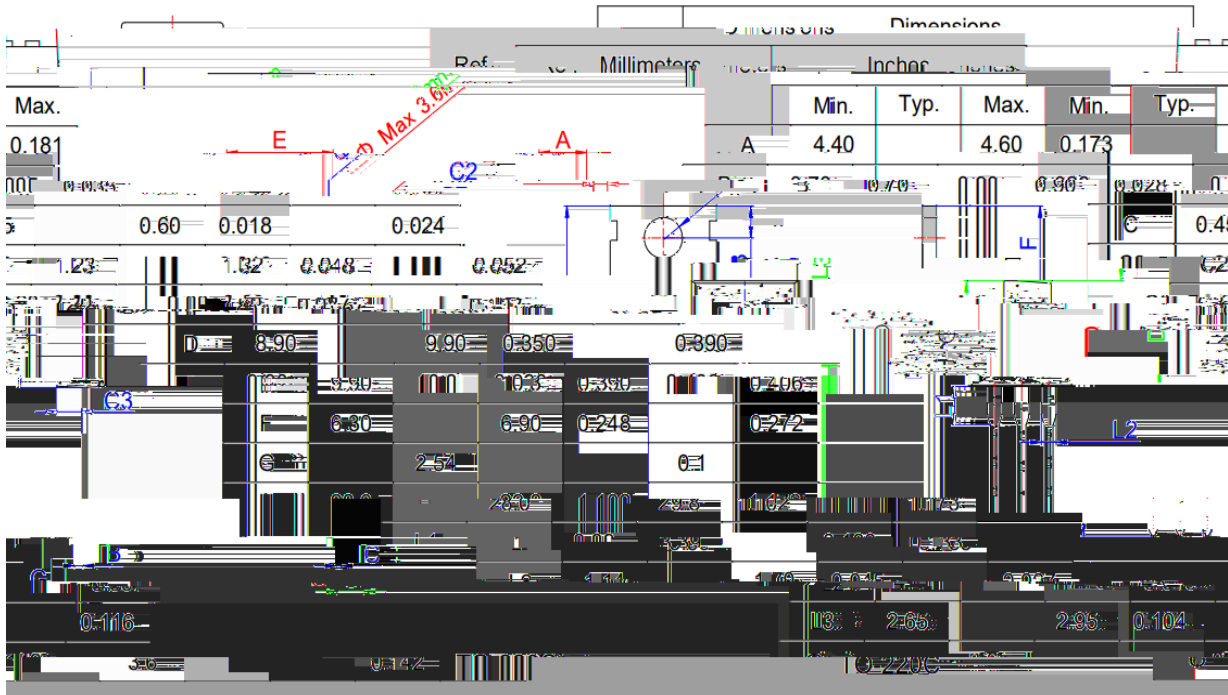


Figure 4: Diode Recovery Test Circuit & Waveform



Package Mechanical Data(TO-220-3L)

Package Outline



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