JMTC030N06D

Features

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

Applications

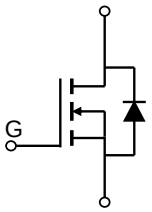
- Load Switch
- PWM Application
- Power Management

Product Summary

Parameters	Value	Unit
V_{DSS}	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	mΩ

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°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°C	204	A
		T_C = 100°C	129	
I_{DM}	Pulsed Drain Current [1]		Refer to Fig.4	A
E_{AS}	Single Pulsed Avalanche Energy [2]		653	mJ
P_D	Power Dissipation	T_C = 25°C	269	W
		T_C = 100°C	108	
T_J, T_{STG}	Junction & Storage Temperature Range		-55 to 150	°C

Thermal Characteristics

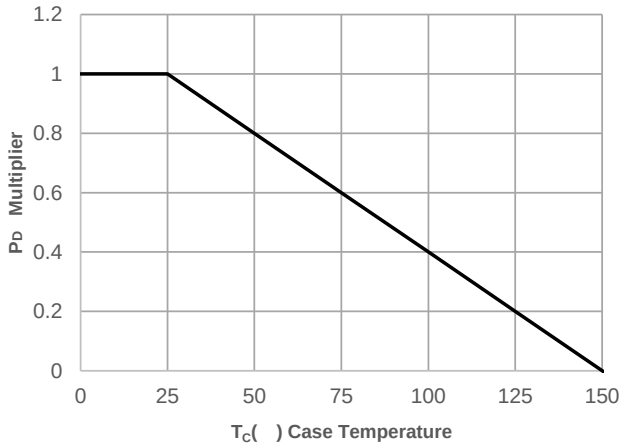
Symbol	Parameter	Max	Unit
R	Thermal Resistance, Junction to Ambient[3]	65	°C/W
R	Thermal Resistance, Junction to Case	0.5	

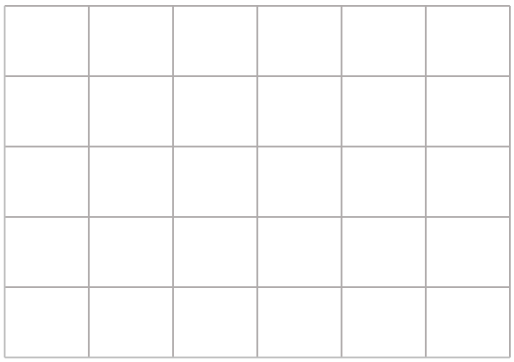
Electrical Characteristics (T_J = 25°C unless otherwise specified)

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

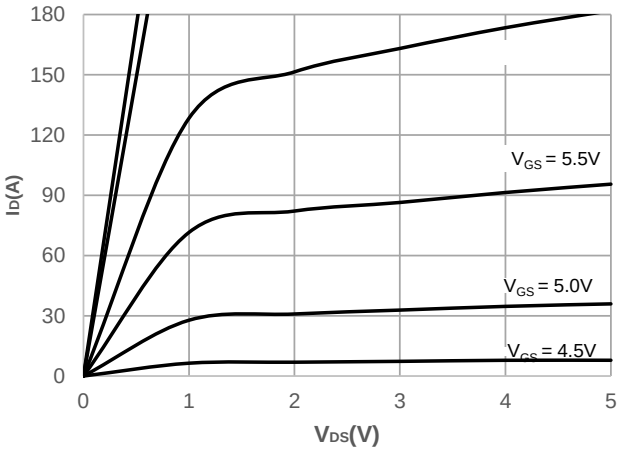
Figure 1: Power De-rating



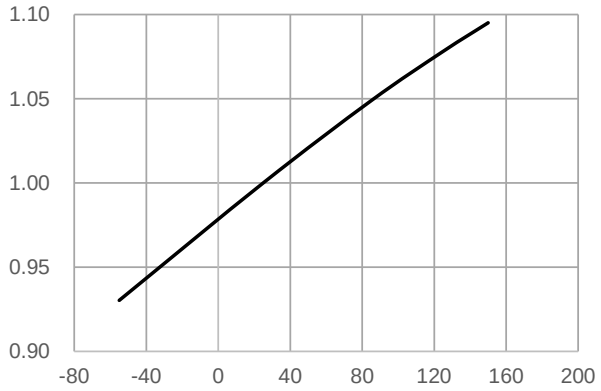


Typical Performance Characteristics

Figure 5: Output Characteristics



Typical Performance Characteristics



Test Circuit

Figure 1: Gate Charge Test Circuit & Waveform

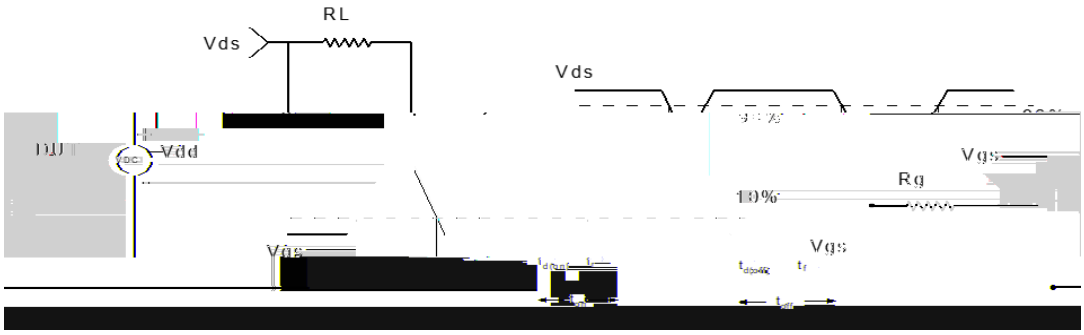


Figure 2: Resistive Switching Test Circuit & Waveform

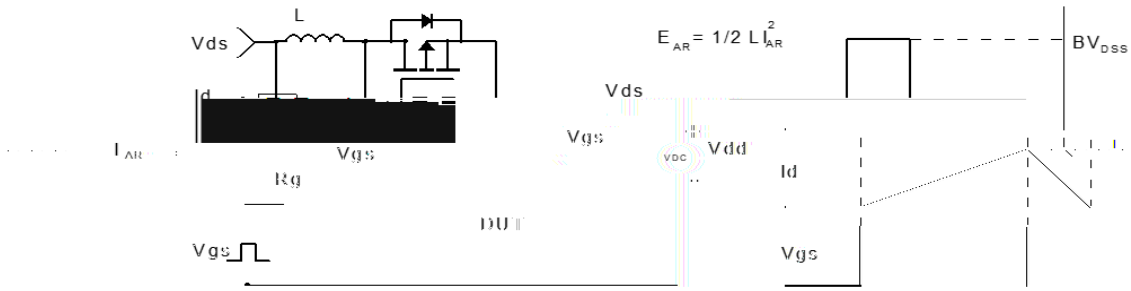


Figure 3: Unclamped Inductive Switching Test Circuit& Waveform

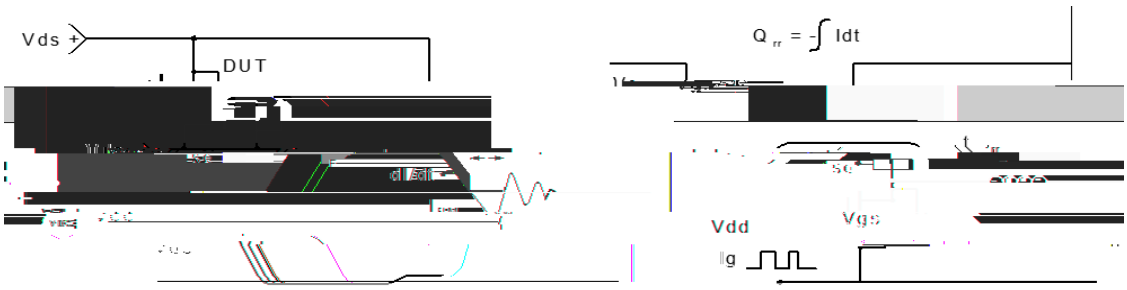


Figure 4: Diode Recovery Test Circuit & Waveform

Package Mechanical Data(TO-220-3L)

Package Outline