

JMSH1118TC

Features

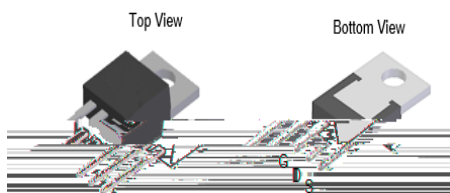
- Excellent $R_{DS(ON)}$ and Low Gate Charge
- 100% UIS Tested
- 100% V_{DS} Tested
- Halogen-free; RoHS-compliant

Applications

- Load Switch
- PWM Application
- Power Management

Product Summary

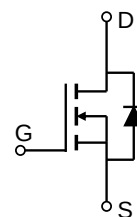
Parameters	Value	Unit
V_{DSS}	110	V
$V_{GS(th_Typ)}$	3.2	V
$I_D(@V_{GS}=10V)$	52	A
$R_{DS(ON_Typ)}(@V_{GS}=10V)$	16	$m\Omega$



TO-220-3L



Pin Assignment



Schematic Diagram

Ordering Information

Device	Marking	MSL	Form	Package	Tube(pcs)	Per Carton (pcs)
JMSH1118TC-U	SH1118T	NA	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	110	V
V_{GS}	Gate-to-Source Voltage	± 20	V
I_D	Continuous Drain Current	$T_C = 25^\circ\text{C}$ $T_C = 100^\circ\text{C}$	A
I_{DM}	Pulsed Drain Current ⁽¹⁾	Refer to Fig.4	A
E_{AS}	Single Pulsed Avalanche Energy ⁽²⁾	74	mJ
P_D	Power Dissipation	$T_C = 25^\circ\text{C}$ $T_C = 100^\circ\text{C}$	W
T_J, T_{STG}	Junction & Storage Temperature Range	-55 to 150	$^\circ\text{C}$

Thermal Characteristics

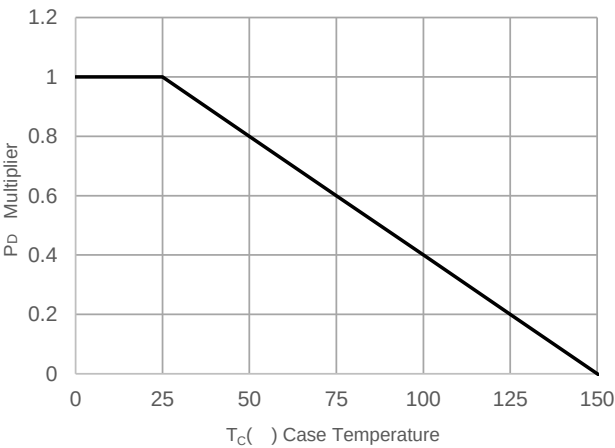
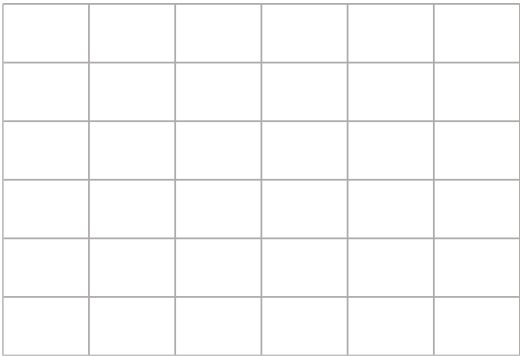
Symbol	Parameter	Max	Unit
R	Thermal Resistance, Junction to Ambient ⁽³⁾	42	$^\circ\text{C/W}$
R	Thermal Resistance, Junction to Case	1.2	

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

Symbol	Min.	Typ.	Max.	Unit
Off Characteristics				
V _{(BR)DSS}	110	-	-	V
I _{DSS}	-	-	1.0	μA
I _{GSS}	-	-	±100	nA
V _{GS(th)}	2.2	3.2	4.1	V
R _{DS(ON)}	-	16	20	mΩ
R _g	-	1.2	-	Ω
C _{iss}	-	838	1256	pF
C _{oss}	-	254	381	pF
C _{rss}	-	8.4	-	pF
Q _g	-	14	-	nC
Q _{gs}	-	5	-	nC
Q _{gd}	-	4	-	nC
t _{d(on)}	-	8.5	-	ns
t _r				

Typical Performance Characteristics

Figure 1: Power De-rating



Test Circuit



Figure 1: Gate Charge Test Circuit & Waveform

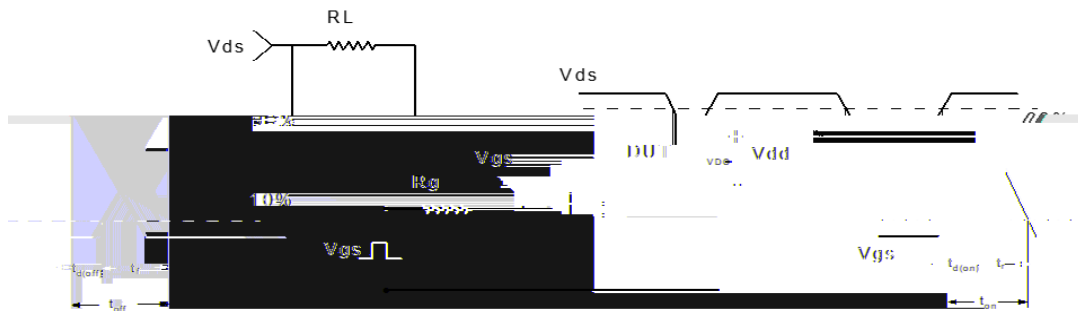


Figure 2: Resistive Switching Test Circuit & Waveform

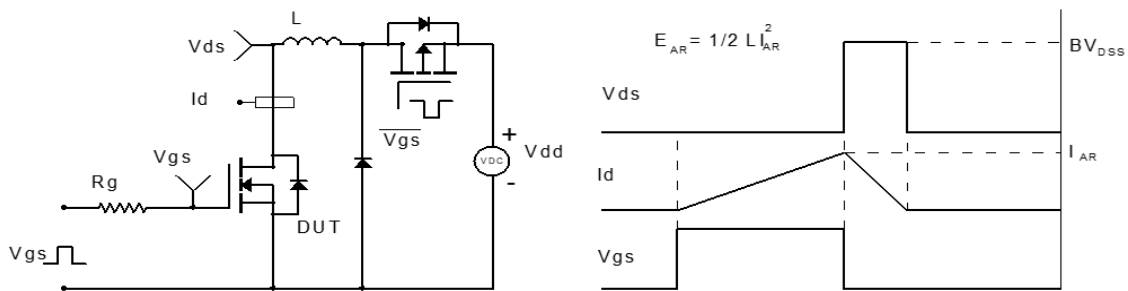


Figure 3: Unclamped Inductive Switching Test Circuit & Waveform

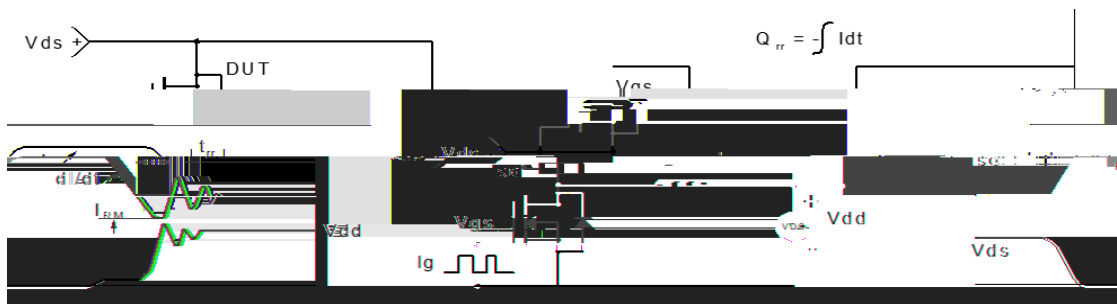
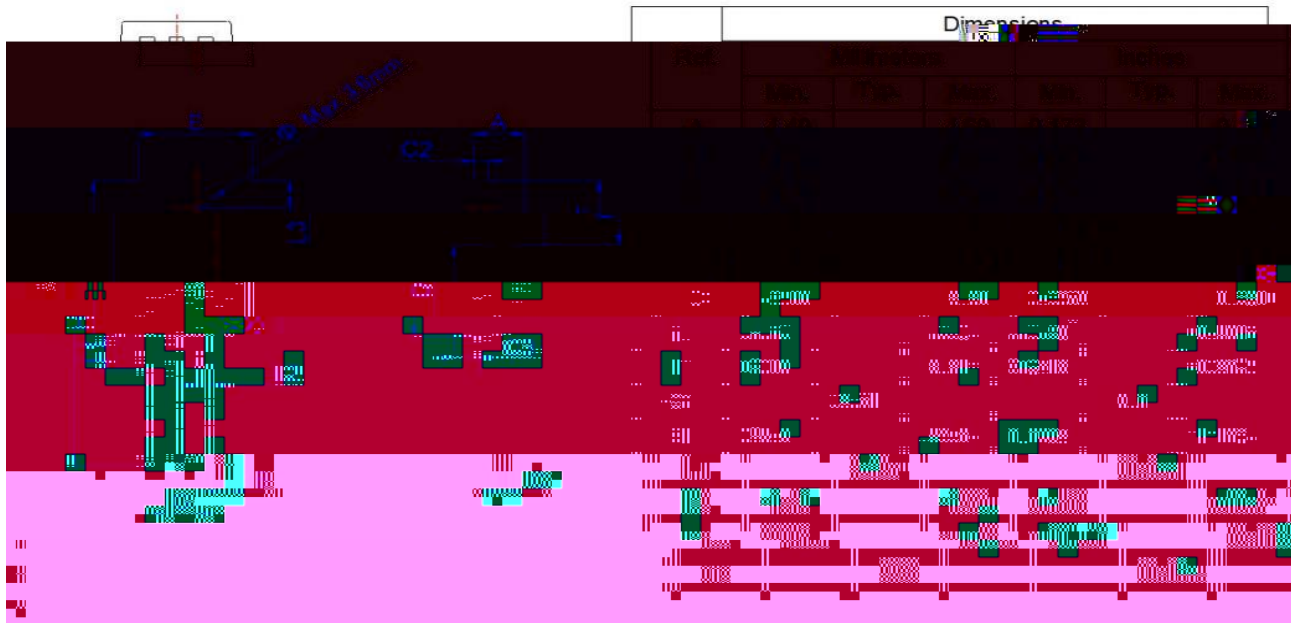


Figure 4: Diode Recovery Test Circuit & Waveform

Package Mechanical Data(TO-220-3L)

Package Outline



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