JMSH1118TC

Features

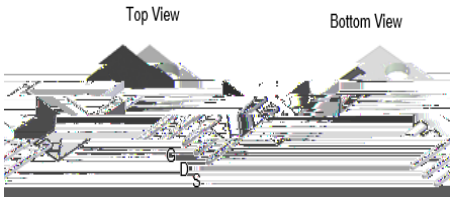
- Excellent $R_{DS(ON)}$ and Low Gate Charge
- 100% UIS Tested
- 100% Vds Tested
- Halogen-free; RoHS-compliant

Applications

- Load Switch
- PWM Application
- Power Management

Product Summary

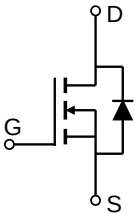
Parameters	Value	Unit
V_{DSS}	110	V
$V_{GS(th)_Typ}$	3.2	V
I_D(@V_{GS}=10V)	52	A
$R_{DS(ON)_Typ}$(@V_{GS}=10V)	16	mΩ



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°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°C	52	A
		T_C = 100°C	33	
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°C	104	W
		T_C = 100°C	42	
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)	42	°C/W
R	Thermal Resistance, Junction to Case	1.2	

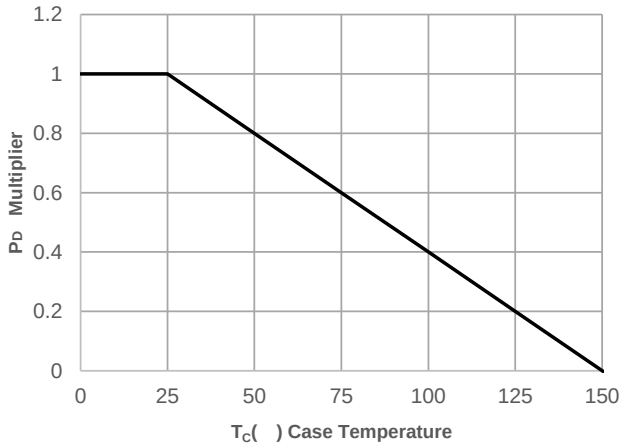
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Electrical Characteristics (T_J = 25°C unless otherwise specified)

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





Typical Performance Characteristics

Figure 11: Normalized Breakdown voltage vs. Junction Temperature

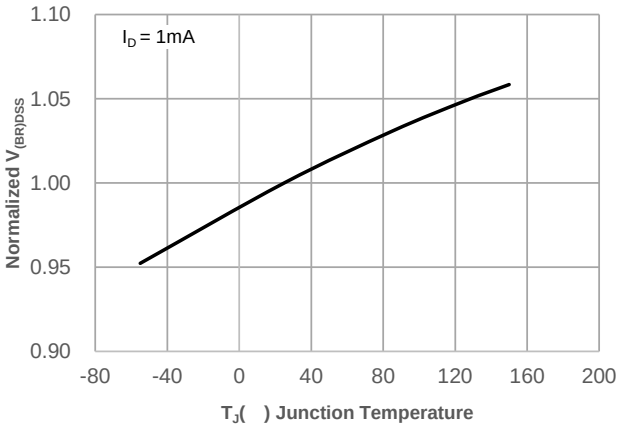
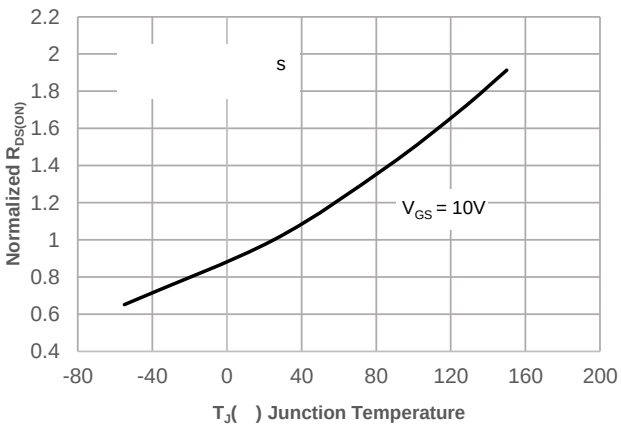


Figure 12: Normalized on Resistance vs. Junction Temperature





Test Circuit



Figure 1: Gate Charge Test Circuit & Waveform

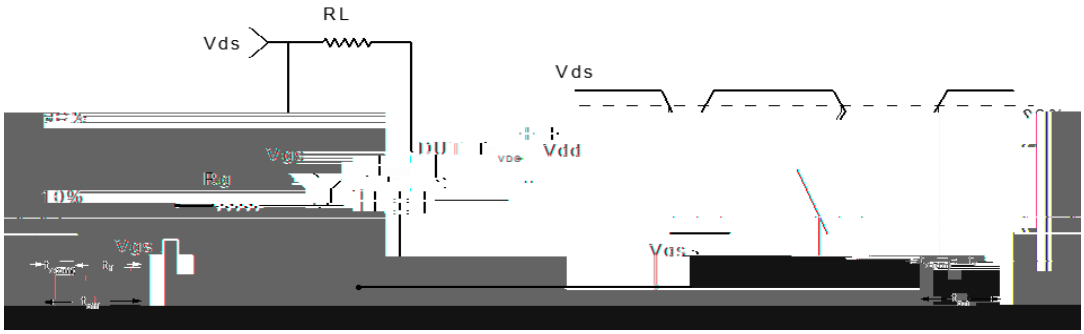
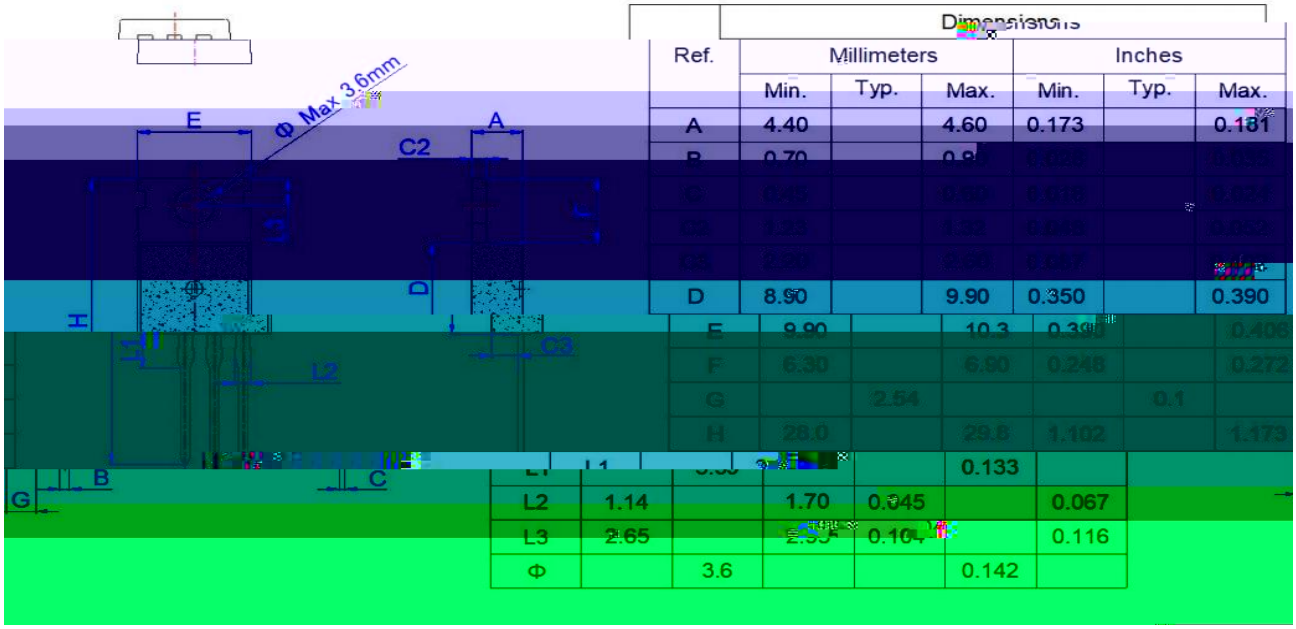


Figure 2: Resistive Switching Test Circuit & Waveform

Package Mechanical Data(TO-220-3L)

Package Outline



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.70		0.8			
C	0.45		0.60	0.018		0.024
C2	1.23		1.32	0.048		0.052
C3	2.20		2.60	0.087		
D	8.90		9.90	0.350		0.390
E	8.90		10.3	0.350		0.406
F	6.30		6.90	0.248		0.272
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1	13.0		14.0	0.512		0.551
L						0.133
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
Φ		3.6			0.142	

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