

JMSH0802MTL

Product Summary

Parameters	Value	Unit
V_{DSS}	80	V
$V_{GS(th)}_{Typ}$	2.9	V
$I_D(@V_{GS}=10V)$	285	A
$R_{DS(ON)}_{Typ}(@V_{GS}=10V)$	1.4	m Ω

Ordering Information

Device	Marking	MSL	Form	Package	Reel(pcs)	Per Carton (pcs)
JMSH0802MTL-13	SH0802M	1	Tape&Reel	PowerJE®10x12	2000	10000

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

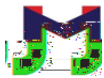
Symbol	Parameter	Value	Unit
V_{DS}	Drain-to-Source Voltage	80	V
V_{GS}	Gate-to-Source Voltage	± 20	V
I_D	Continuous Drain Current	$\begin{matrix} T_C = 25^\circ\text{C} & 285 \\ T_C = 100^\circ\text{C} & 202 \end{matrix}$	A
I_{DM}	Pulsed Drain Current ⁽¹⁾	Refer to Fig.4	A
E_{AS}	Single Pulsed Avalanche Energy ⁽²⁾	1423	mJ
P_D	Power Dissipation	$\begin{matrix} T_C = 25^\circ\text{C} & 310 \\ T_C = 100^\circ\text{C} & 124 \end{matrix}$	W
T_J, T_{STG}	Junction & Storage Temperature Range	-55 to 150	$^\circ\text{C}$

Thermal Characteristics

Symbol	Parameter	Max	Unit
$R_{\theta J}$	Thermal Resistance, Junction to Ambient ⁽³⁾	34	$^\circ\text{C/W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Case	0.4	

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

Symbol	Conditions	Min.	Typ.	Max.	Unit
Off Characteristics					
V _{(BR)DSS}		80	-	-	V
I _{DSS}		-	-	1.0	μA
I _{GSS}		-	-	±100	nA
V _{GS(th)}		2.0	2.9	3.8	V
R _{DS(ON)}		-	1.4	2.0	mΩ
R _g		-	0.4	-	Ω
C _{iss}		6243	8740	11799	pF
C _{oss}		1257	1760	2376	pF
C _{rss}		19	26	35	pF
Q _g		91	128	173	nC
Q _{gs}		29	40	54	nC
Q _{gd}		18	26	34	nC
t _{d(on)}		-	36	-	ns
t _r		-	38	-	ns
t _{d(off)}		-	87	-	ns
t _f					



Typical Performance Characteristics

Figure 1: Power De-rating

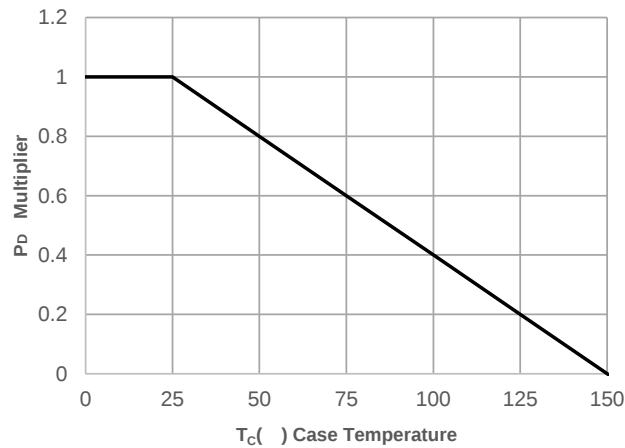
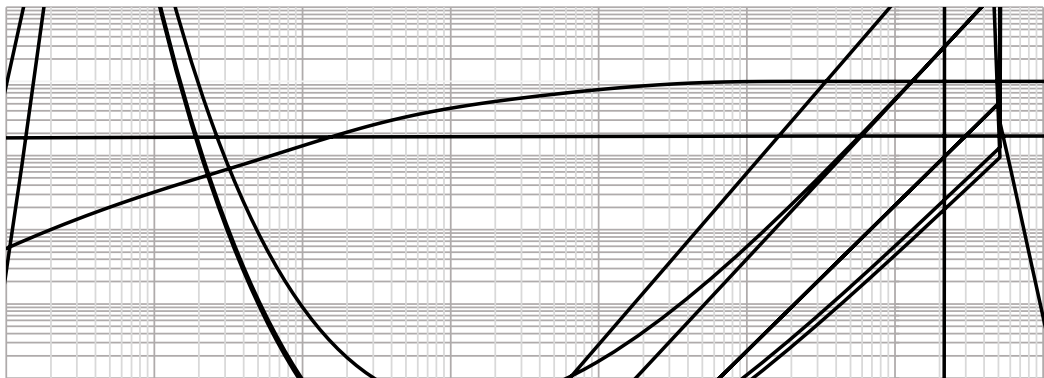
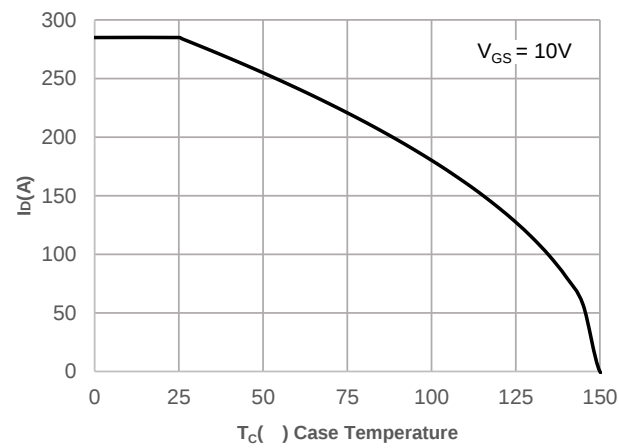


Figure 2: Current De-rating



Typical Performance Characteristics

Figure 5: Output Characteristics

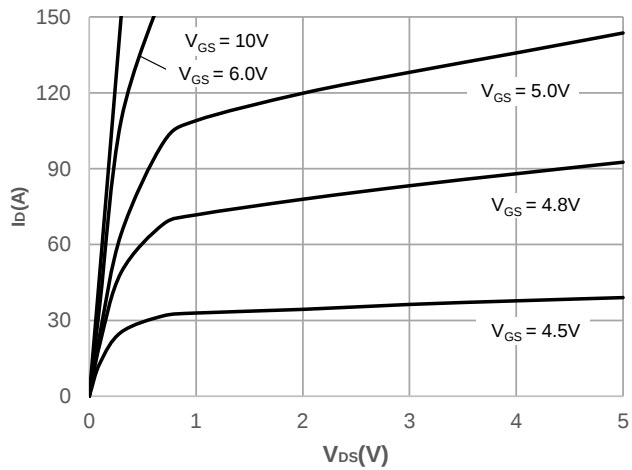
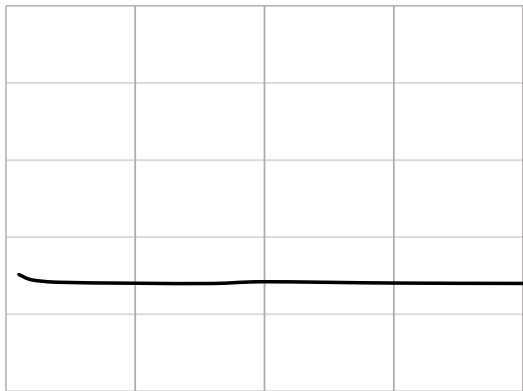
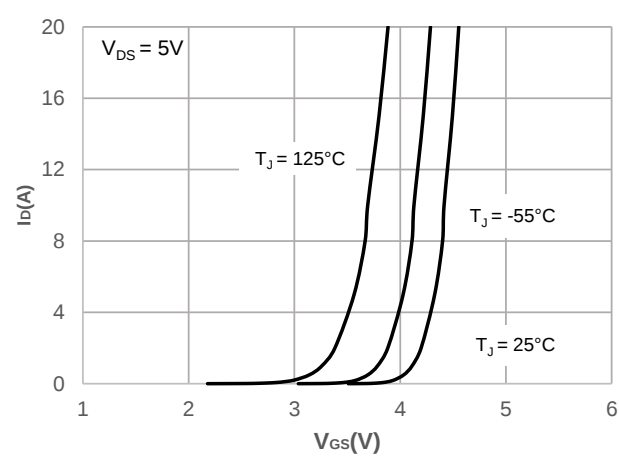


Figure 6: Typical Transfer Characteristics



Test Circuit

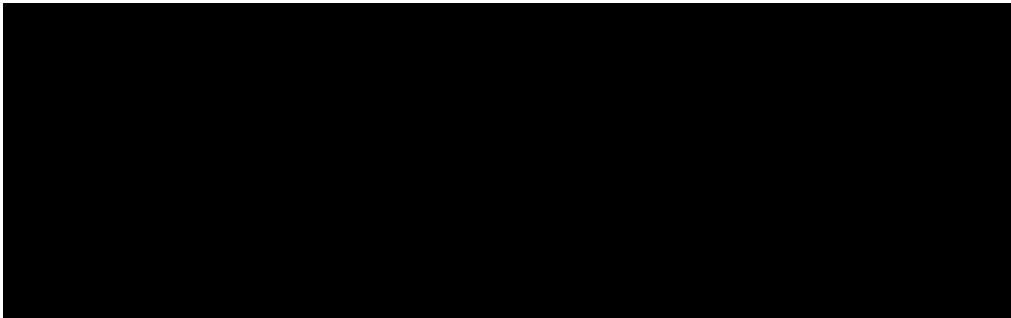


Figure 1: Gate Charge Test Circuit & Waveform

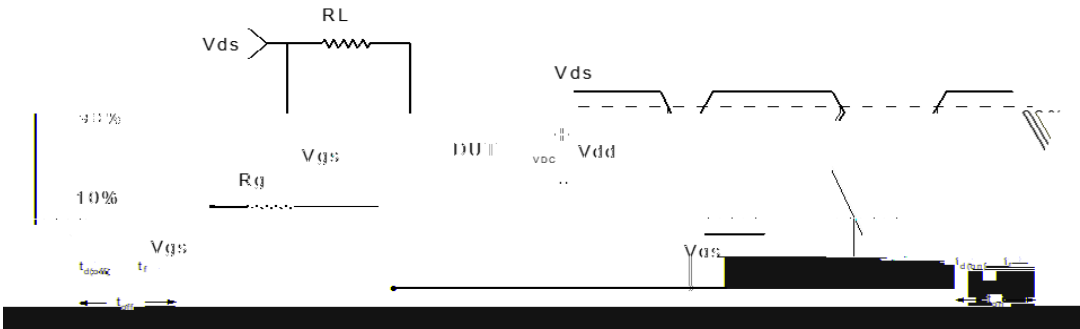


Figure 2: Resistive Switching Test Circuit & Waveform

