

# 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 $\Omega$

## 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	$\pm 20$	V
$I_D$	Continuous Drain Current	$\left. \begin{array}{l} T_C = 25^\circ\text{C} \\ T_C = 100^\circ\text{C} \end{array} \right\} \begin{array}{l} 285 \\ 202 \end{array}$	A
$I_{DM}$	Pulsed Drain Current <sup>(1)</sup>	Refer to Fig.4	A
$E_{AS}$	Single Pulsed Avalanche Energy <sup>(2)</sup>	1423	mJ
$P_D$	Power Dissipation	$\left. \begin{array}{l} T_C = 25^\circ\text{C} \\ T_C = 100^\circ\text{C} \end{array} \right\} \begin{array}{l} 310 \\ 124 \end{array}$	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 <sup>(3)</sup>	34	$^\circ\text{C/W}$
R - &	Thermal Resistance, Junction to Case	0.4	

**Electrical Characteristics** ( $T_J = 25^\circ\text{C}$  unless otherwise specified)

Symbol	Conditions	Min.	Typ.	Max.	Unit
<b>Off Characteristics</b>					
$V_{(BR)DSS}$		80	-	-	V
$I_{DSS}$		-	-	1.0	$\mu\text{A}$
$I_{GSS}$		-	-	$\pm 100$	$\text{nA s}$
$V_{GS(th)}$		2.0	2.9	3.8	V
$R_{DS(ON)}$		-	1.4	2.0	$\text{m}\Omega$
$R_g$		-	0.4	-	$\Omega$
$C_{iss}$		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	<del>44</del>	nC
$t_{d(on)}$		-	36	87	ns
$t_r$		-	38	-	ns
$t_{d(off)}$		-	87	-	ns
$t_f$					



### Typical Performance Characteristics

Figure 1: Power De-rating

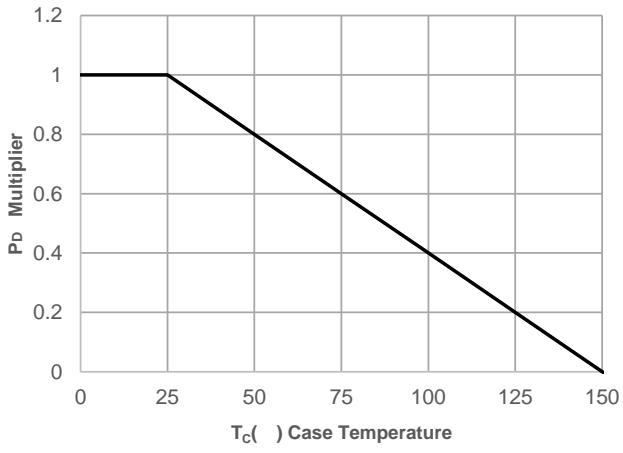
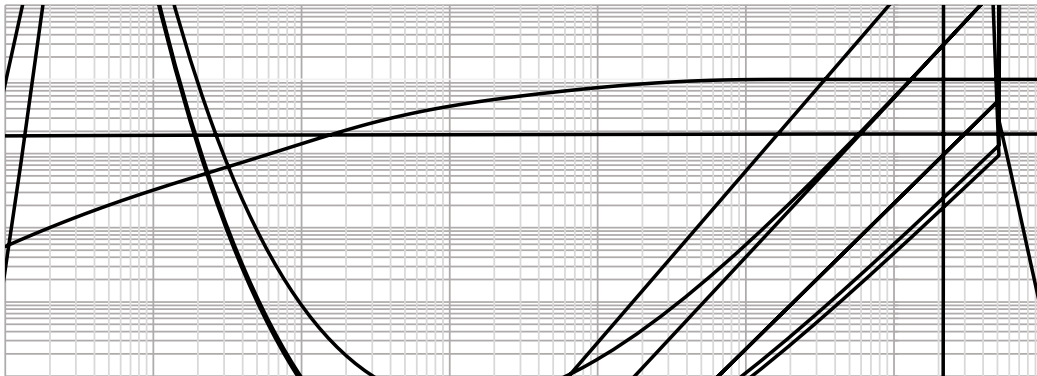
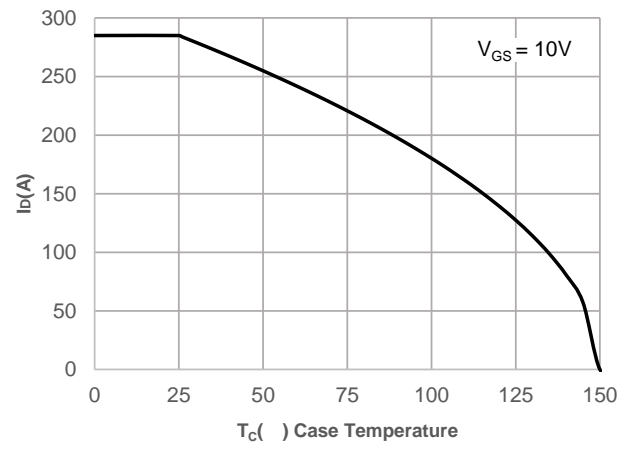


Figure 2: Current De-rating



### Typical Performance Characteristics

Figure 5: Output Characteristics

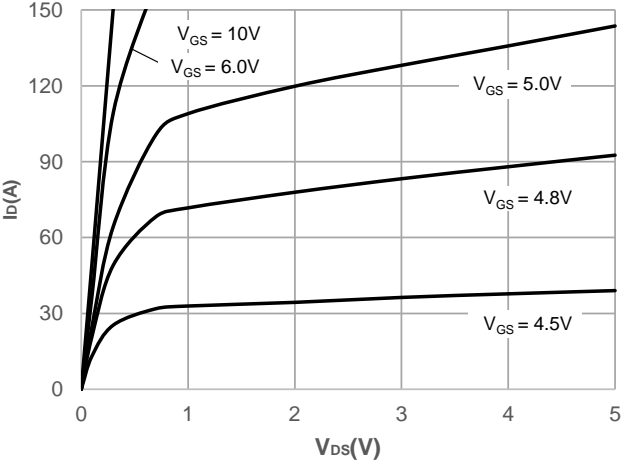
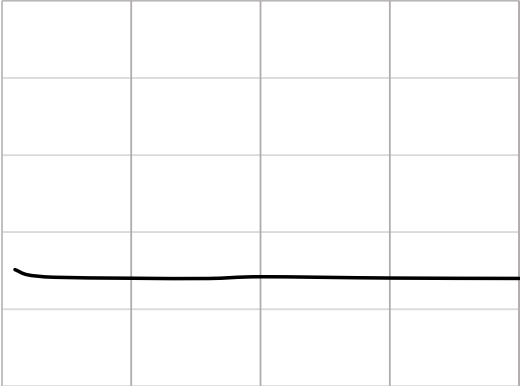
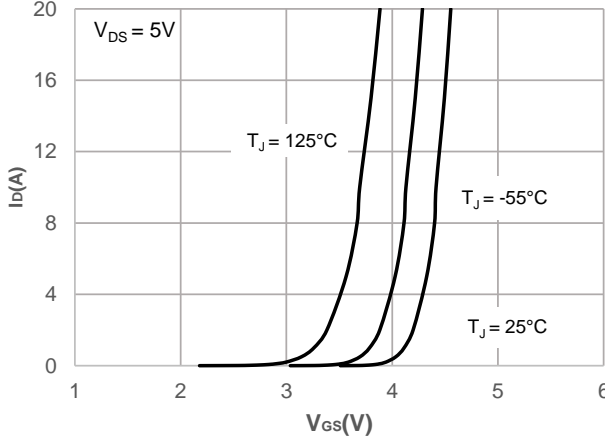


Figure 6: Typical Transfer Characteristics





Test Circuit



Figure 1: Gate Charge Test Circuit & Waveform

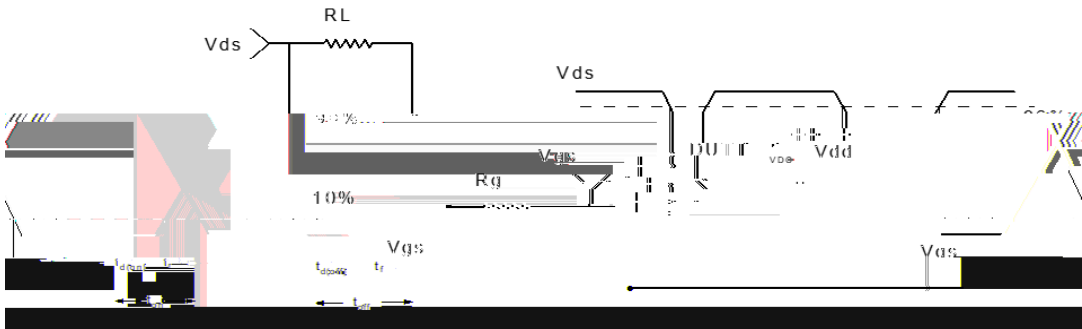


Figure 2: Resistive Switching Test Circuit & Waveform

