

JMSL0302PU

Product Summary

Parameters	Value	Unit
V_{DSS}	30	V
$V_{GS(th_Typ)}$	1.5	V
$I_D(@V_{GS}=10V)$	125	A
$R_{DS(ON)_Typ}(@V_{GS}=10V)$	1.4	m Ω
$R_{DS(ON)_Typ}(@V_{GS}=4.5V)$	2.0	m Ω

Ordering Information

Device	Marking	MSL	Form	Package	Reel(pcs)	Per Carton (pcs)
JMSL0302PU-13	SL0302P	1	Tape&Reel	PDFN3x3-8L	5000	50000

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

Symbol	Parameter	Value	Unit
V_{DS}	Drain-to-Source Voltage	30	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	294	mJ
P_D	Power Dissipation	$T_C = 25^\circ\text{C}$ $T_C = 100^\circ\text{C}$	W
T_{J_STG}	Junction & Storage Temperature Range	-55 to 150	$^\circ\text{C}$

Thermal Characteristics

Symbol	Parameter	Max	Unit
R	Thermal Resistance, Junction to Ambient ⁽³⁾	43	$^\circ\text{C}/\text{W}$
R	Thermal Resistance, Junction to Case	2.5	$^\circ\text{C}/\text{W}$



Typical Performance Characteristics

Figure 1: Power De-rating

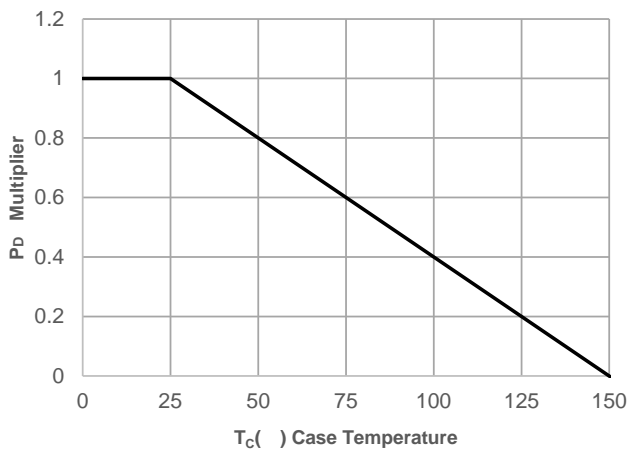


Figure 2: Current De-rating

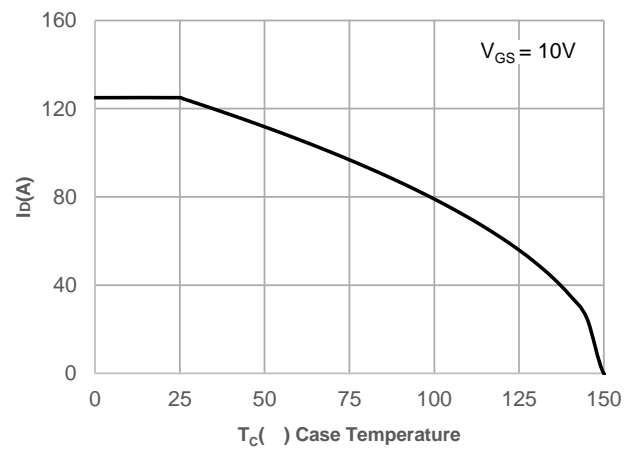
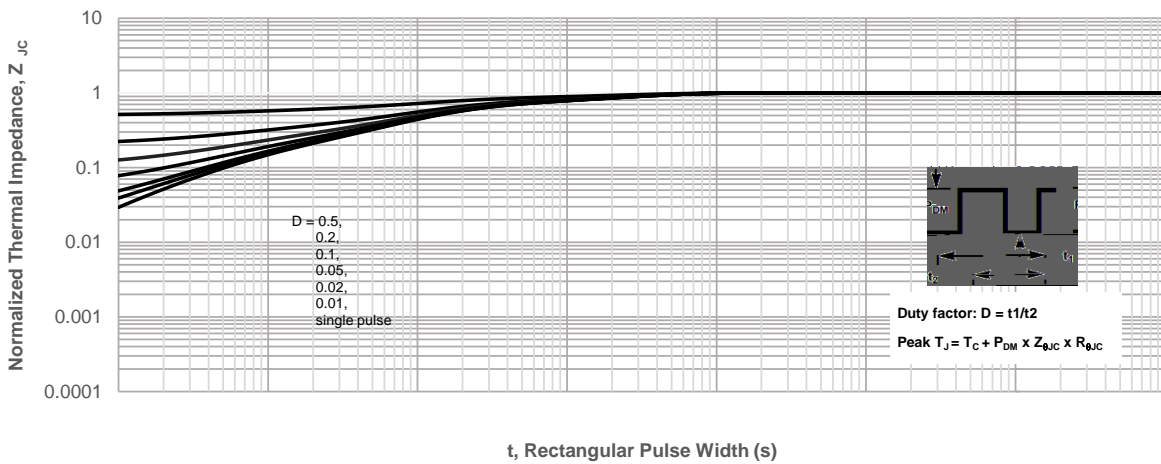
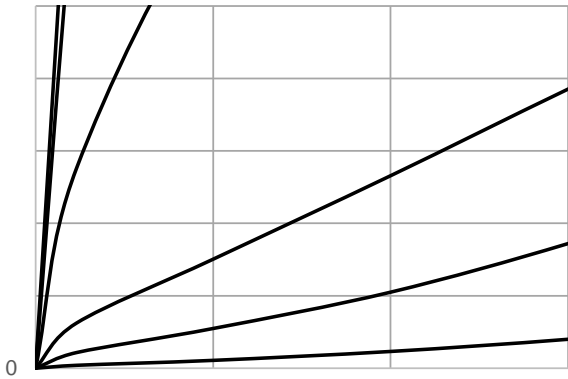


Figure 3: Normalized Maximum Transient Thermal Impedance



Typical Performance Characteristics



Typical Performance Characteristics

Figure 11: Normalized Breakdown voltage vs. Junction Temperature

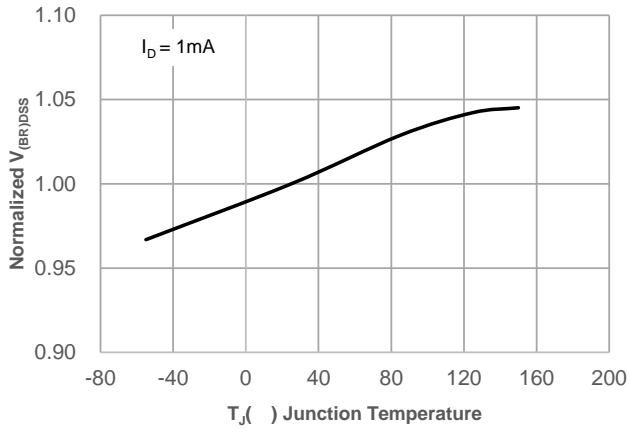
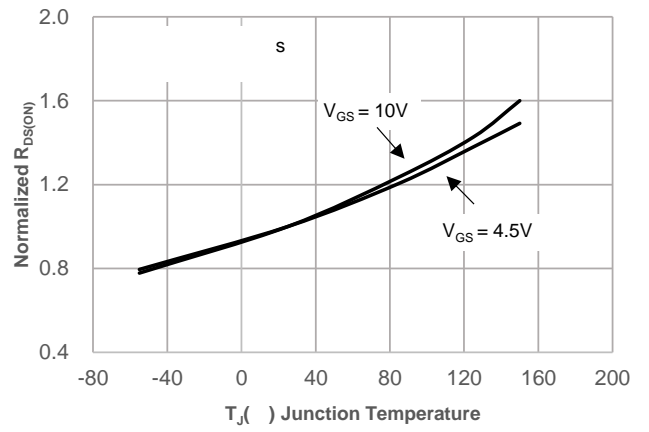


Figure 12: Normalized on Resistance vs. Junction Temperature



Test Circuit



Figure 1: Gate Charge Test Circuit & Waveform

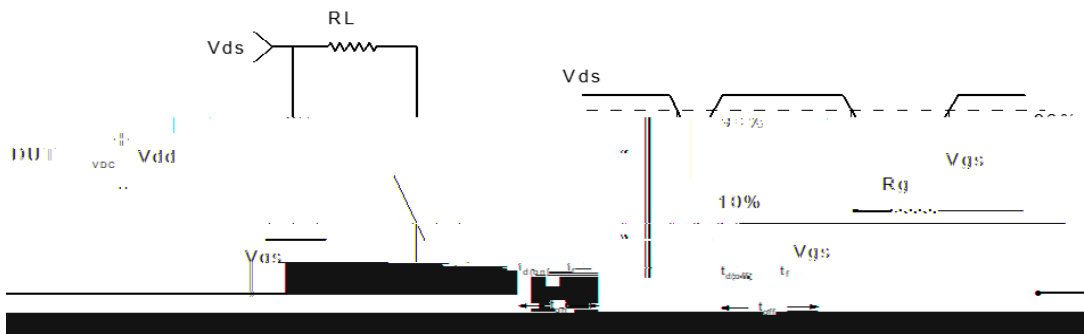


Figure 2: Resistive Switching Test Circuit & Waveform

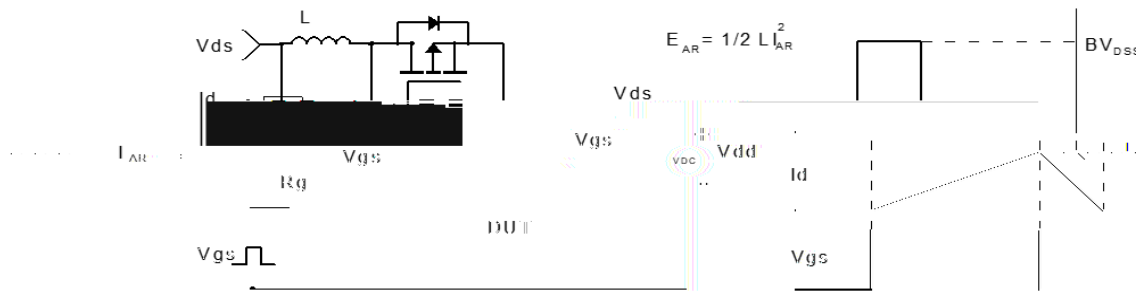


Figure 3: Unclamped Inductive Switching Test Circuit & Waveform

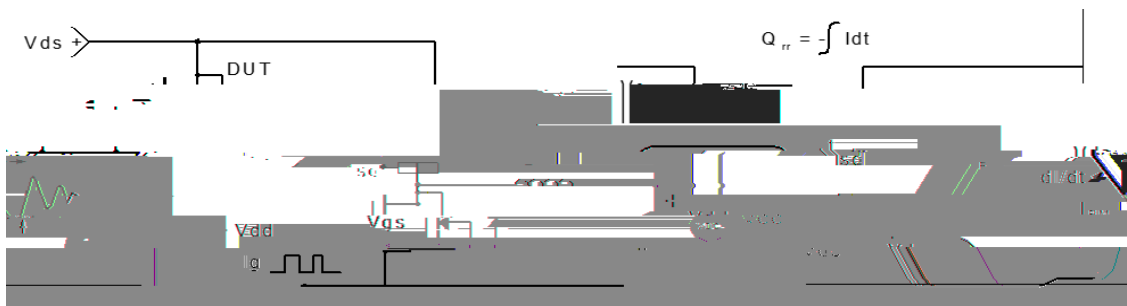


Figure 4: Diode Recovery Test Circuit & Waveform



