30V, 395A, 0.48mΩ N-channel Power SGT MOSFET

JMSL030STG

Product Summary

Parameters	Value	Unit
V_{DSS}	30	V
$V_{GS(th)_Typ}$	1.6	V
I_D(@V_{GS}=10V)	395	A
$R_{DS(ON)_Typ}$(@V_{GS}=10V	0.48	mΩ

Ordering Information

Device	Marking	MSL	Form	Package	Reel(pcs)	Per Carton (pcs)
JMSL030STG-13	SL030ST	1	Tape&Reel	PDFN5x6-8L	5000	50000

Absolute Maximum Ratings (@ T_C = 25°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		T_C = 25°C	395	A
		T_C = 100°C	250	
I_{DM}	Pulsed Drain Current [1]		Refer to Fig.4	A
E_{AS}	Single Pulsed Avalanche Energy [2]		1118	mJ
P_D		T_C = 25°C		W
		T_C = 100°C		
T_J, T_{STG}				°C

Symbol		Unit
R		
R		

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

Symbol	Conditions	Min.	Typ.	Max.	Unit
Off Characteristics					
$V_{(BR)DSS}$		30	-	-	V
I_{DSS}		-	-	1.0	μA
I_{GSS}		-	-	±100	nA
$V_{GS(th)}$					

Typical Performance Characteristics

Figure 1: Power De-rating

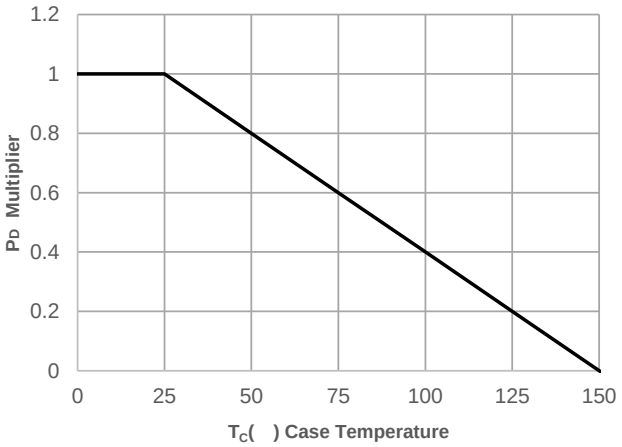
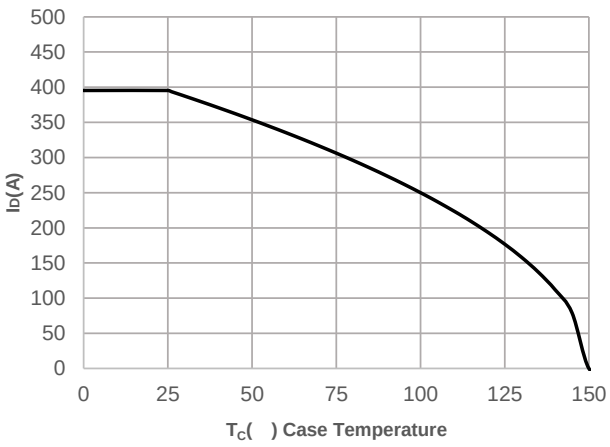
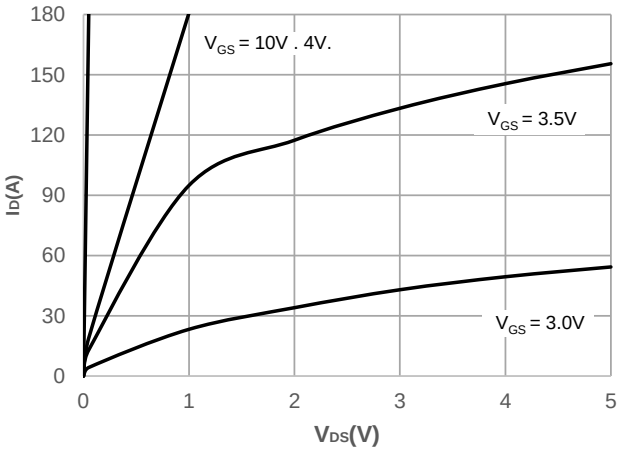


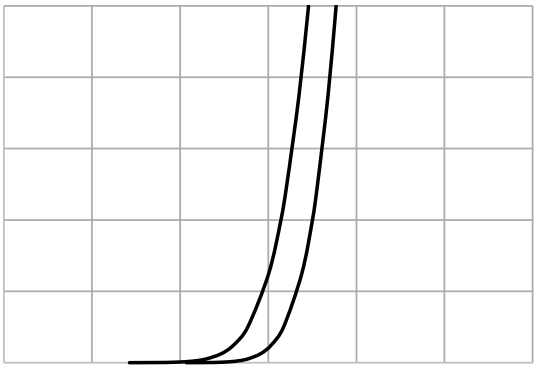
Figure 2: Current De-



Typical Performance Characteristics

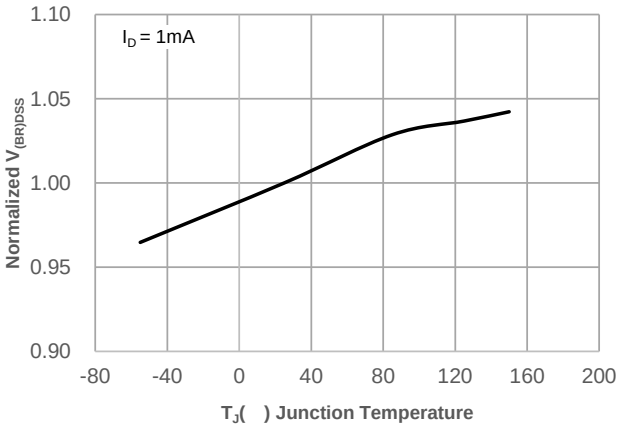
Figure 5: Output Characteristics

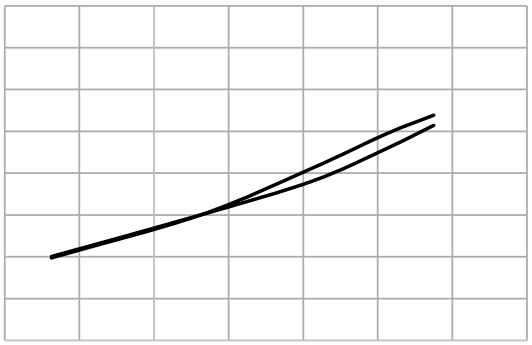




Typical Performance Characteristics

Figure 11: Normalized Breakdown voltage vs. Junction Temperature





Test Circuit



Figure 1: Gate Charge Test Circuit & Waveform

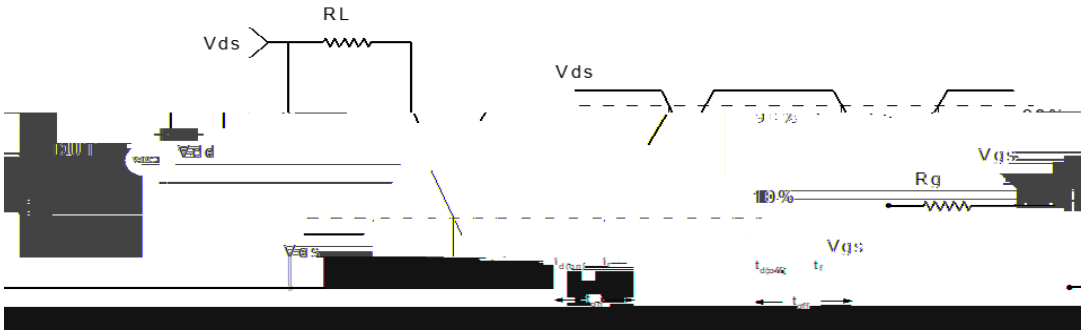


Figure 2: Resistive Switching Test Circuit & Waveform

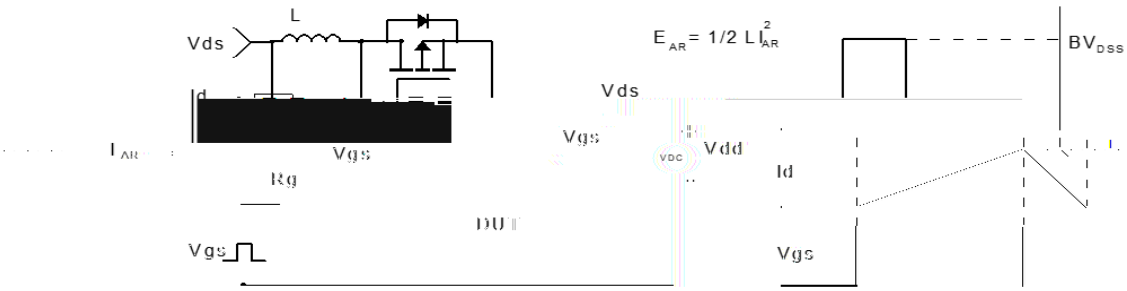


Figure 3: Unclamped Inductive Switching Test Circuit& Waveform

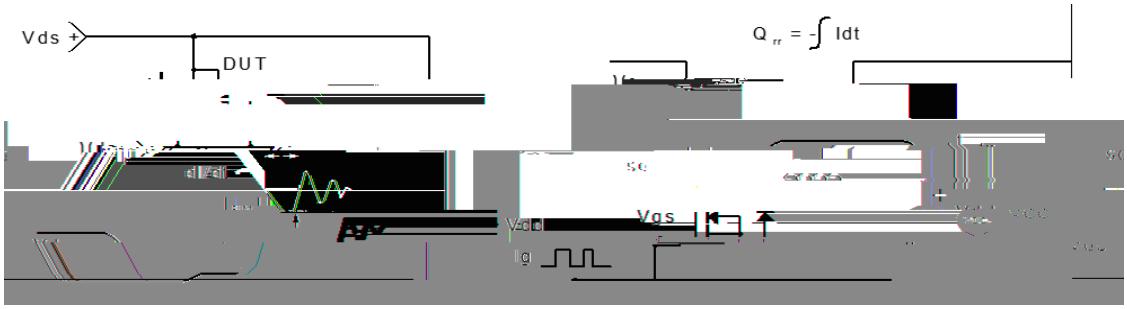
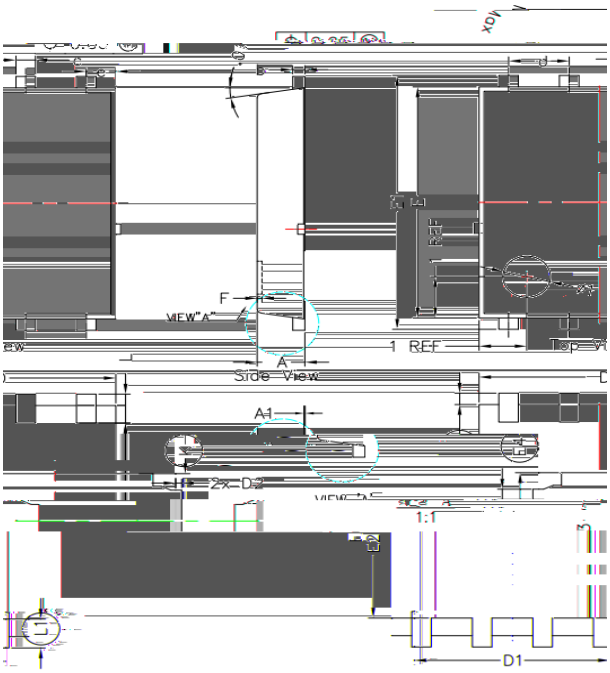


Figure 4: Diode Recovery Test Circuit & Waveform

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Package Mechanical Data(PDFN 5X6-8L)

Package Outline





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