



BSS138BE

N-Channel Enhancement Mode Field Effect Transistor

Product Summary

V_{DS}	50V
I_D	300mA
$R_{DS(ON)}$ (at $V_{GS}=10V$)	1100m
$R_{DS(ON)}$ (at $V_{GS}=4.5V$)	1200m

General Description

Trench Power MV MOSFET technology
Voltage controlled small signal switch
Low input Capacitance
Fast Switching Speed
Low Input / Output Leakage
Moisture Sensitivity Level 1
Epoxy Meets UL 94 V-0 Flammability Rating
Halogen Free

Applications

Battery operated systems
Solid-state relays
Direct logic-level interface TTL/CMOS

Absolute Maximum Ratings ($T_A=25$ unless otherwise noted)

Parameter	Symbol	Limit	Unit	
Drain-source Voltage	V_{DS}	50	V	
Gate-source Voltage	V_{GS}	± 20	V	
Drain Current	I_D	$T_A=25$	300	mA
		$T_A=100$	189	



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Electrical Characteristics ($T_J=25$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	U/P θ_{eW}
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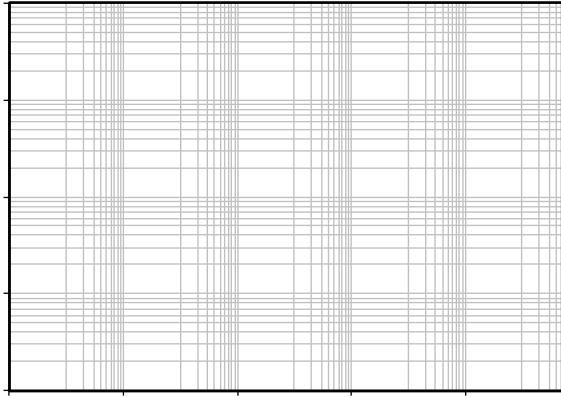


Figure 13. Maximum Transient Thermal Impedance

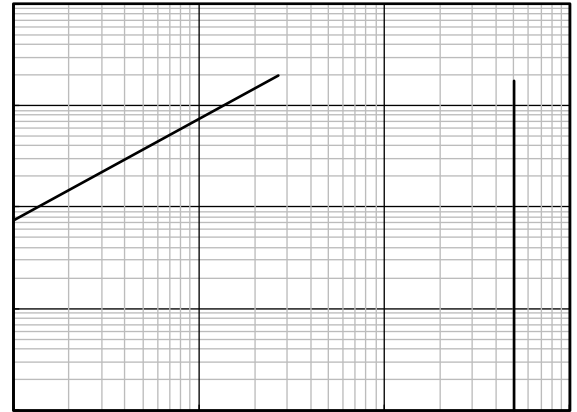


Figure 14. Safe Operation Area

Test Circuits & Waveforms

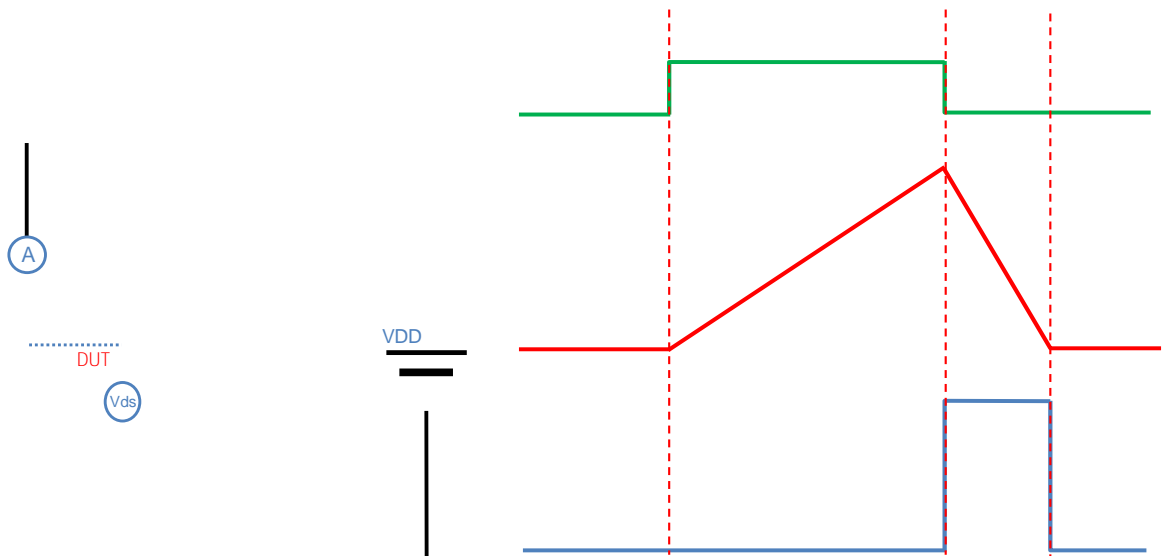


Figure A. Unclamped Inductive Switching (UIS) Test Circuit & Waveform



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Figure B. Gate Charge Test Circuit & Waveform

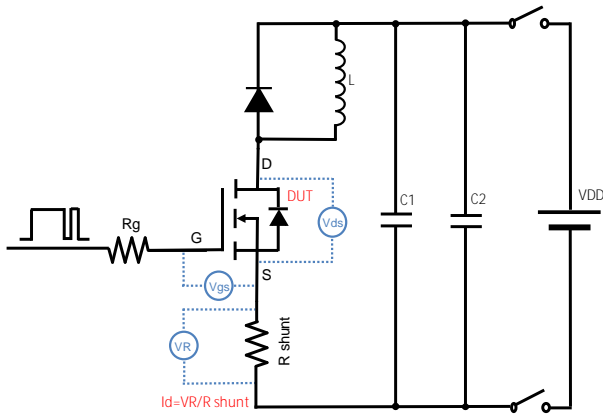


Figure C. Resistive Switching Test Circuit & Waveform

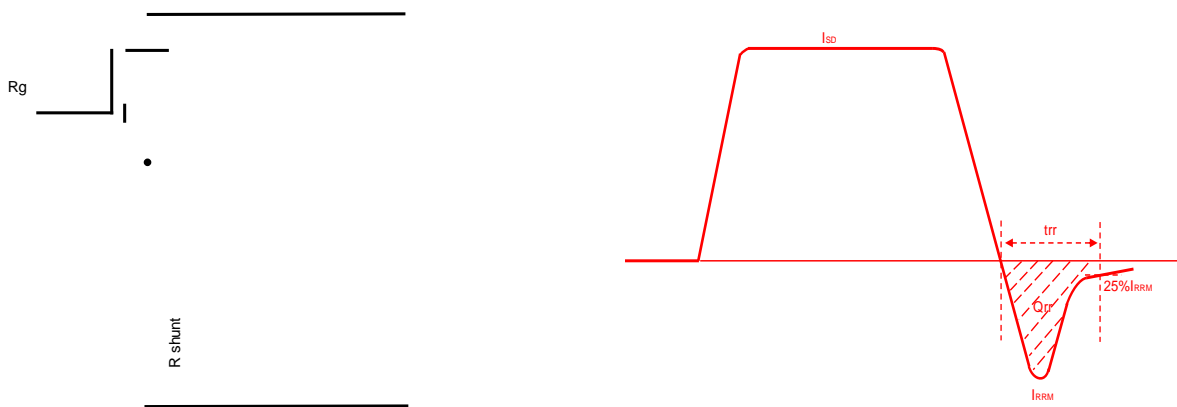


Figure D. Diode Recovery Test Circuit & Waveform



SOT-523



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Disclaimer

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The product is i8540ayT/htit1 0 0 1 6(e)9()-28(c)-6[T3(i)-4(rd4(s)7(p)-399(u)-3ry)n)T/u91erodYangjop9()-41(-108(th)-5((c)7(i)/u91 G[o]-3(r/u9