

● Static Parameter Characteristics (Tj=25°C Unless otherwise specified)

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	V	100	—	—
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100V, V_{GS}=0V$	μA	—	—	1.0
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	nA	—	—	± 100
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	V	1.0	1.3	2.5
Static Drain-Source On-Resistance ⁽²⁾	$R_{DS(on)}$	$V_{GS}=10V, I_D=3A$	m Ω	—	135	160
		$V_{GS}=4.5V, I_D=3A$		—	140	170

● Dynamic Parameters

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Input Capacitance	C_{iss}	$V_{DS}=50V, V_{GS}=0V, f=1MHz$	pF	—	650	—
Output Capacitance	C_{oss}			—	24	—
Reverse Transfer Capacitance	C_{rss}			—	20	—

● Switching Parameters

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Turn-on Delay Time	$t_{D(on)}$	$V_{GS}=10V, V_{DD}=50V, I_D=3A, R_{GEN}=3\Omega$	nS	—	6	—
Turn-on Rise Time	t_r		nS	—	4	—
Turn-off Delay Time	$t_{D(off)}$		nS	—	20	—
Turn-off fall Time	t_f		nS	—	4	—
Total Gate Charge	Q_g	$V_{DS}=50V, I_D=3A, V_{GS}=10V$	nC	—	20	—
Gate-Source Charge	Q_{gs}		nC	—	2.1	—
Gate-Drain Charge	Q_{gd}		nC	—	3.3	—

● Drian-Source Diode Characteristics

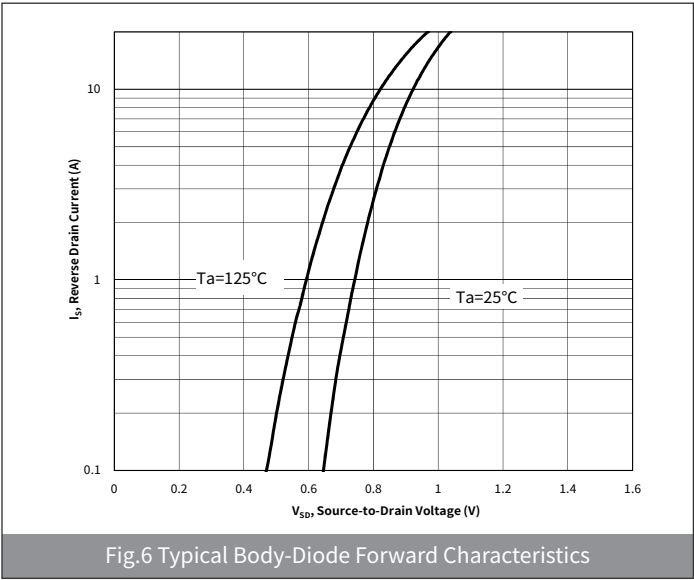
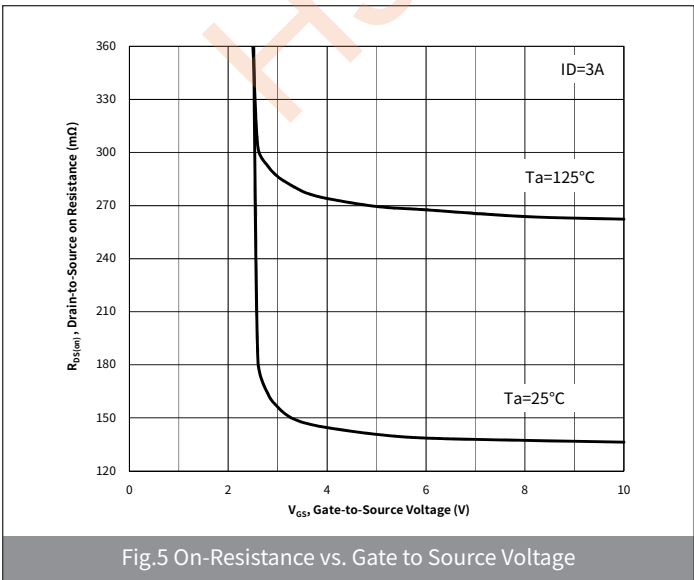
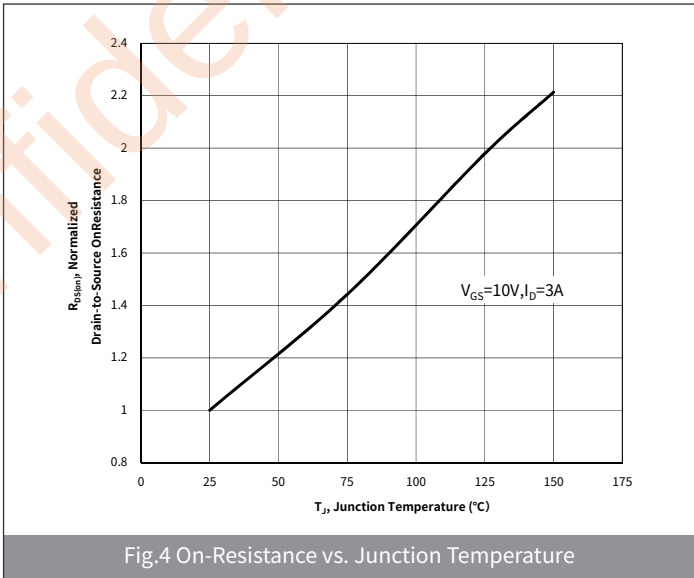
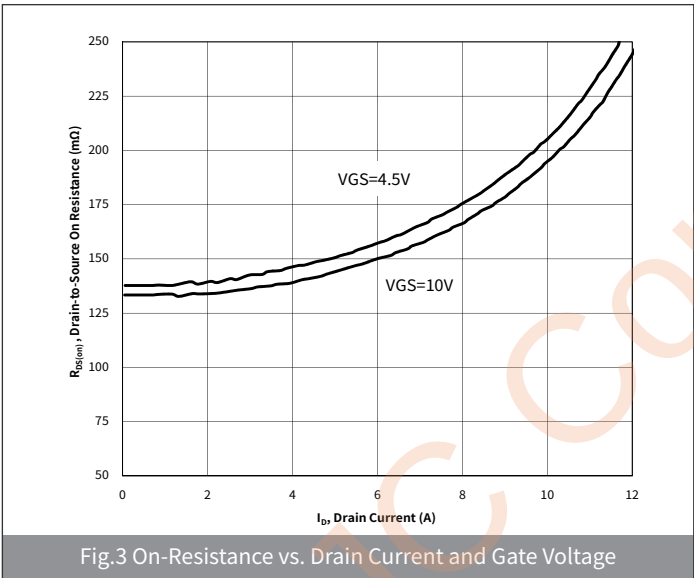
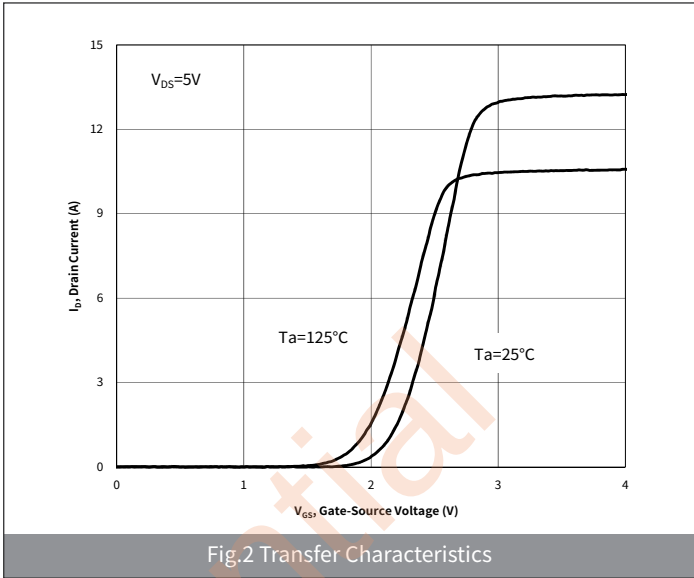
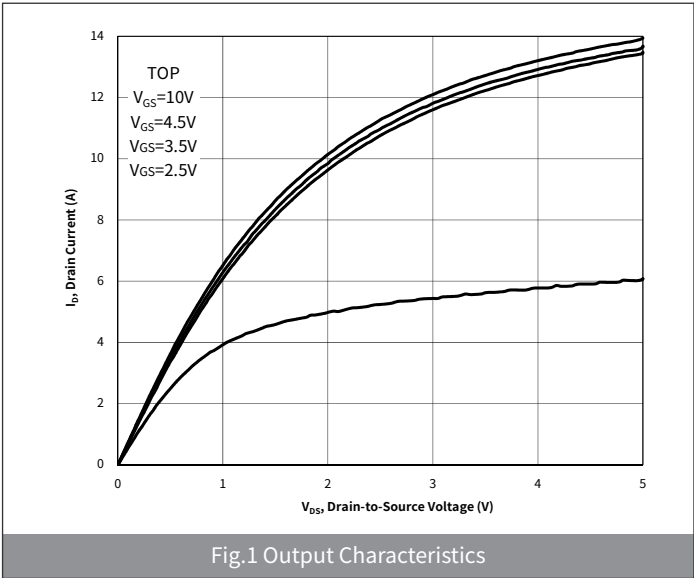
PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Diode Forward Voltage	V_{SD}	$I_S=3A, V_{GS}=0V$	V	—	—	1.2
Maximum Body-Diode Continuous Current	I_S	—	A	—	—	3

Note :

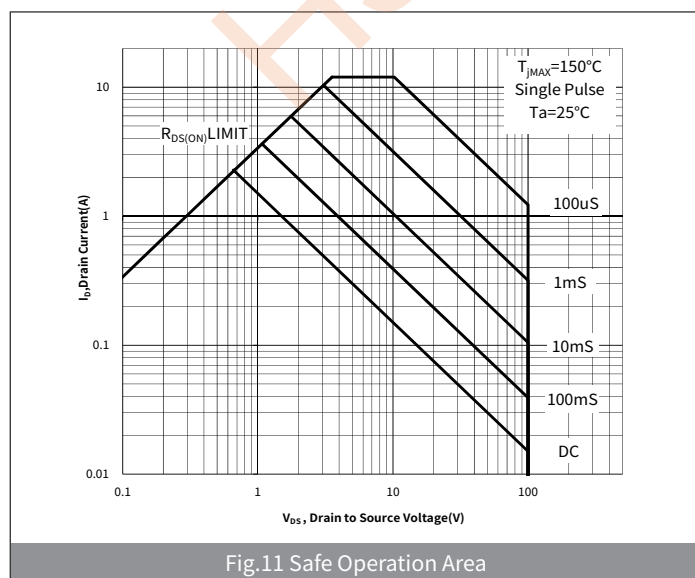
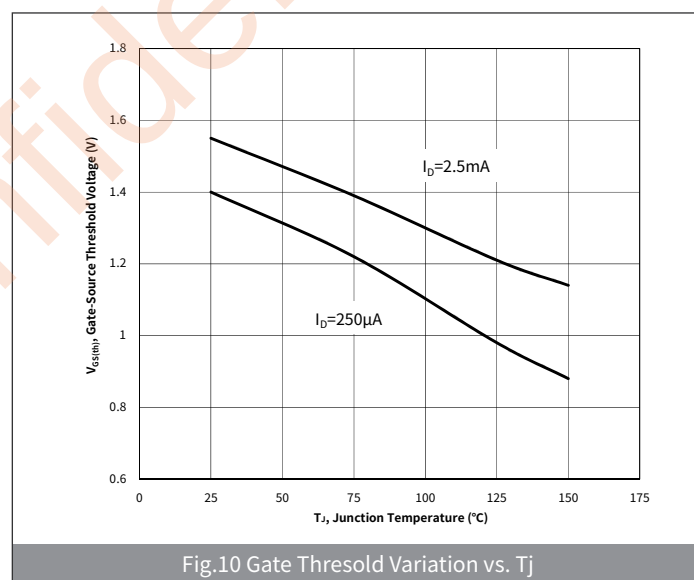
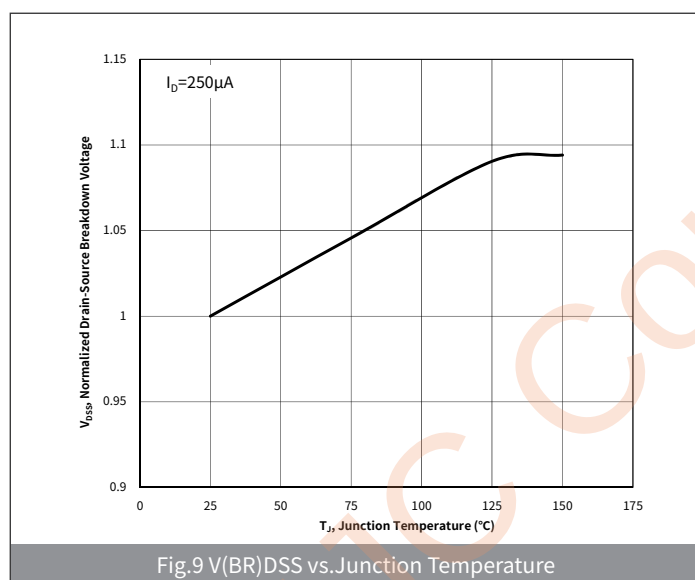
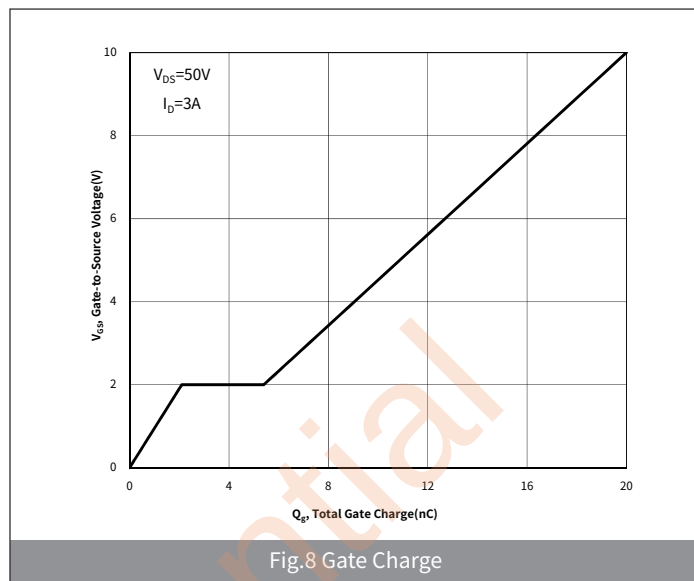
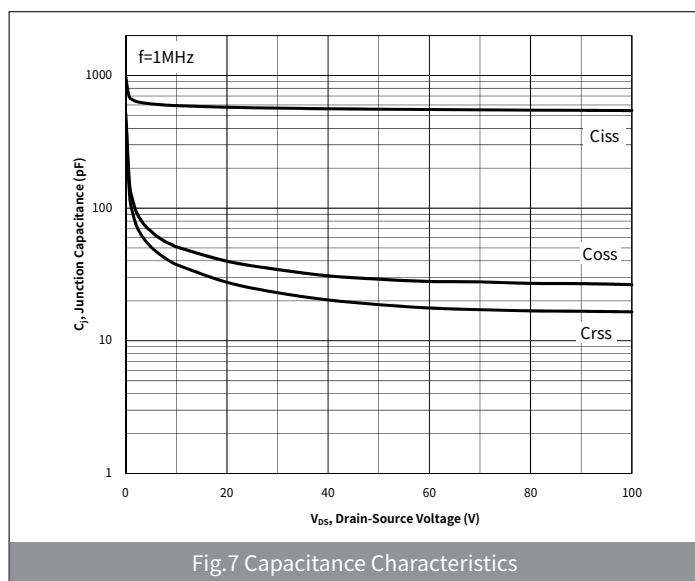
(1) Repetitive Rating: Pulse width limited by maximum junction temperature.

(2) Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

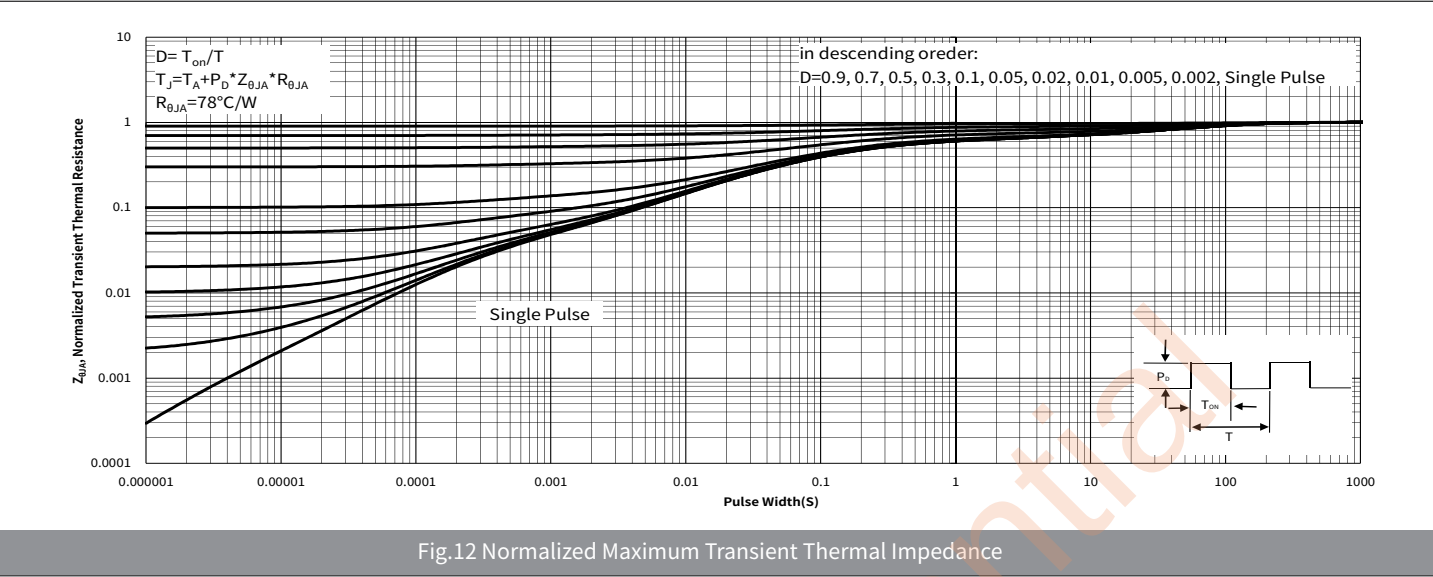
● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



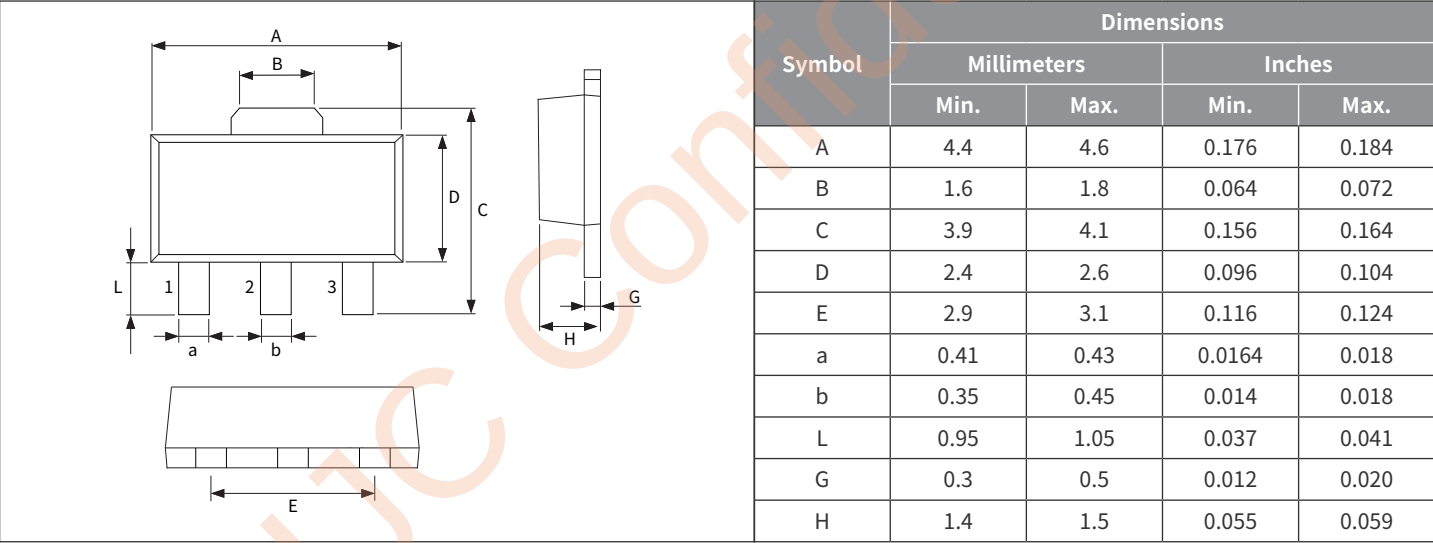
● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



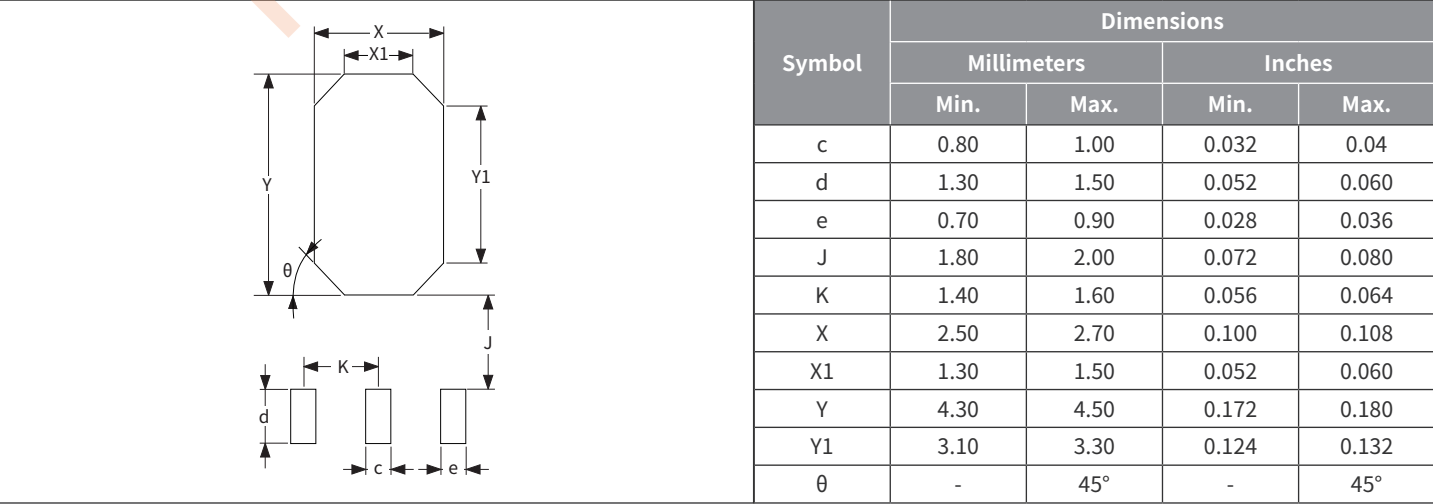
● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



● Package Outline Dimensions (SOT-89)



● Suggested Pad Layout



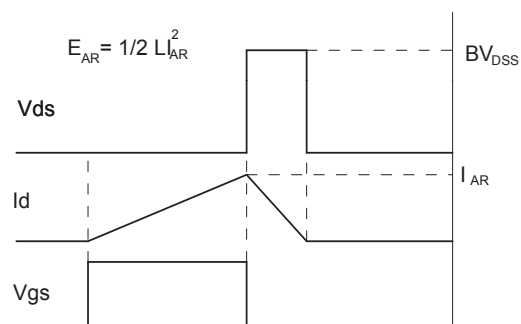
1. Gate Charge Test Circuit & Waveforms



2. Resistive Switching Test Circuit & Waveforms



3. Unclamped Inductive Switching (UIS) Test Circuit & Waveforms



4. Diode Recovery Test Circuit & Waveforms

