



	Value	Unit
	80	V
	2.9	V
	327	A
	1.3	Tm0 g0 G[V]TJETQ EMC



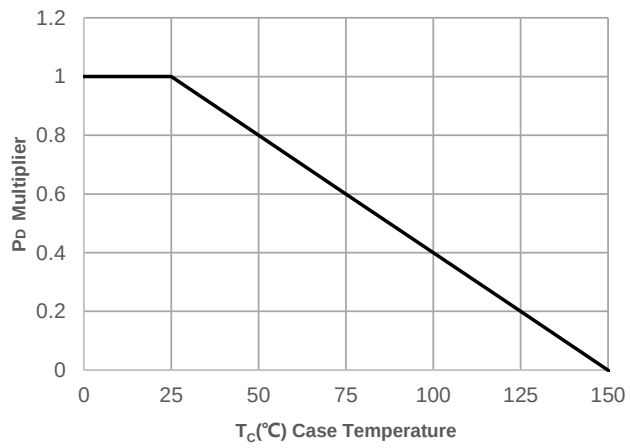
**Electrical Characteristics** ($T_J = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
Off Characteristics						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	I _D = 250μA, V _{GS} = 0V	80	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 64V, V _{GS} = 0V	-	-	1.0	μ
I _{GSS}	Gate-Body Leakage Current	V _{DS} = 0V, V _{GS} = ±20V	-	-	±100	
On Characteristics						
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = 250μA	2.0	2.9	3.8	V
R _{DS(ON)}	Static Drain-Source ON-Resistance ⁽⁴⁾	V _{GS} = 10V, I _D = 20A	-	1.3	1.7	mΩ
Dynamic Characteristics						
R _g	Gate Resistance	f = 1MHz	-	3.2	-	Ω
C _{iss}	Input Capacitance	V _{GS} = 0V, V _{DS} = 40V, f = 1MHz	-	13653	20479	pF
C _{oss}	Output Capacitance		-	4421	6632	pF
C _{rss}	Reverse Transfer Capacitance		-	110	220	pF
Q _g	Total Gate Charge	V _{GS} = 0 to 10V V _{DS} = 40V, I _D = 20A	-	200	-	nC
Q _{gs}	Gate Source Charge		-	68	-	nC
Q _{gd}	Gate Drain("Miller") Charge		-	41	-	nC
Switching Characteristics						
t _{d(on)}	Turn-On DelayTime	V _{GS} = 10V, V _{DD} = 40V I _D = 20A, R _{GEN} = 3Ω	-	33	-	ns
t _r	Turn-On Rise Time		-	54	-	ns
t _{d(off)}	Turn-Off DelayTime		-	138	-	ns
t _f	Turn-Off Fall Time		-	73	-	ns
Body Diode Characteristics						
I _S	Maximum Continuous Body Diode Forward Current		-	-	327	A
I _{SM}	Maximum Pulsed Body Diode Forward Current		-	-	1308	A
V _{SD}	Body Diode Forward Voltage	V _{GS} = 0V, I _S = 20A	-		1.2	V
trr	Body Diode Reverse Recovery Time	I _F = 20A, di/dt = 100A/us	58	115	173	ns
Qrr	Body Diode Reverse Recovery Charge		-	331	-	nC

- Notes:
1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature.
 2. E_{AS} condition: Starting $T_J = 25^\circ\text{C}$, $V_{DD} = 40\text{V}$, $V_{GS} = 10\text{V}$, $R_G = 25\text{ohm}$, $L = 3\text{mH}$, $I_{AS} = 37.1\text{A}$, $V_{DD} = 0\text{V}$ during time in avalanche.
 3. R is measured with the device mounted on a 1inch^2 pad of 2oz copper FR4 PCB.
 4. Pulse Test: Pulse Width $\leq 0.5\%$.



Typical Performance Characteristics



Typical Performance Characteristics

Figure 5: Output Characteristics

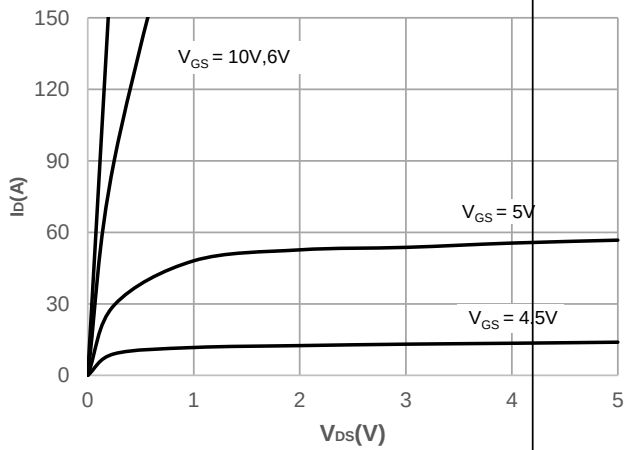


Figure 6: Typical Transfer Characteristics

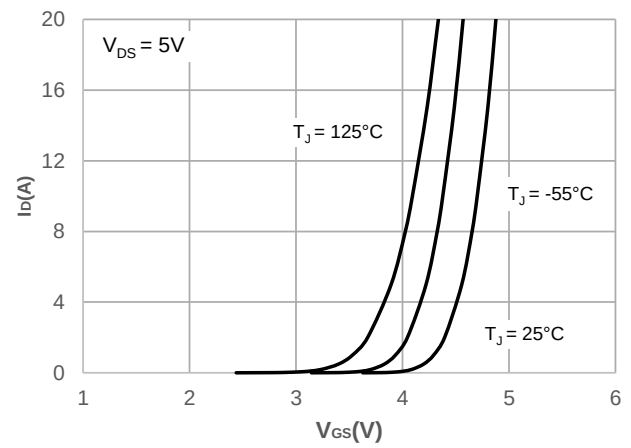


Figure 7: On-resistance vs. Drain Current

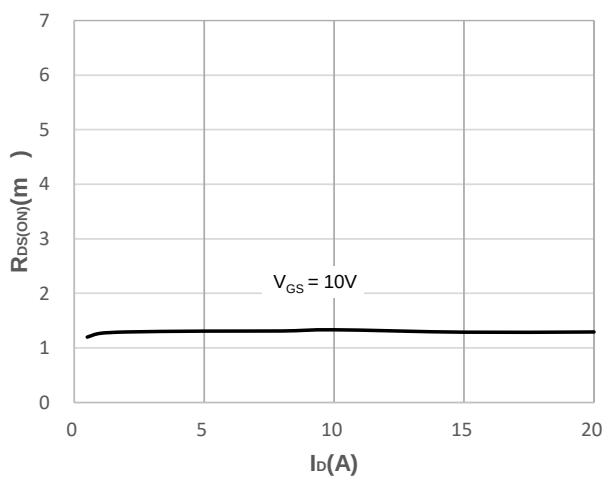
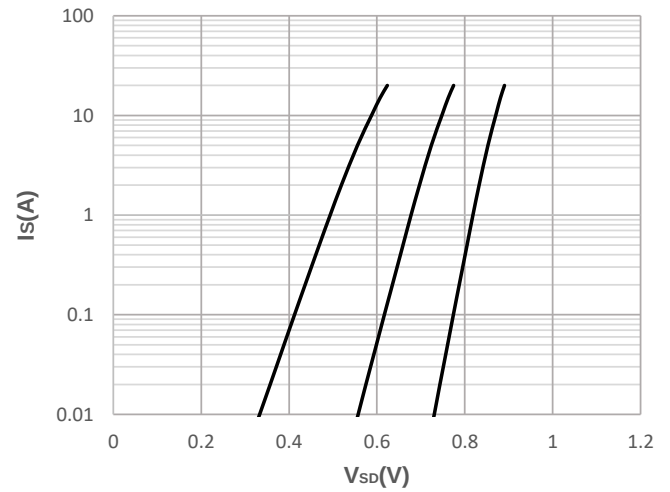


Figure 8: Body Diode Characteristics



Typical Performance Characteristics

Figure 11: Normalized Breakdown voltage vs. Junction Temperature

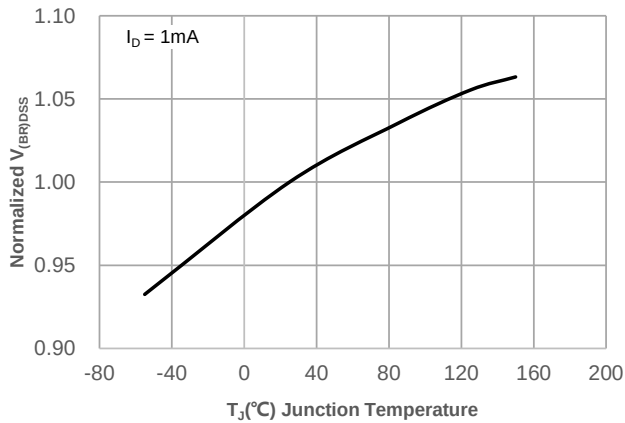


Figure 12: Normalized on Resistance vs. Junction Temperature

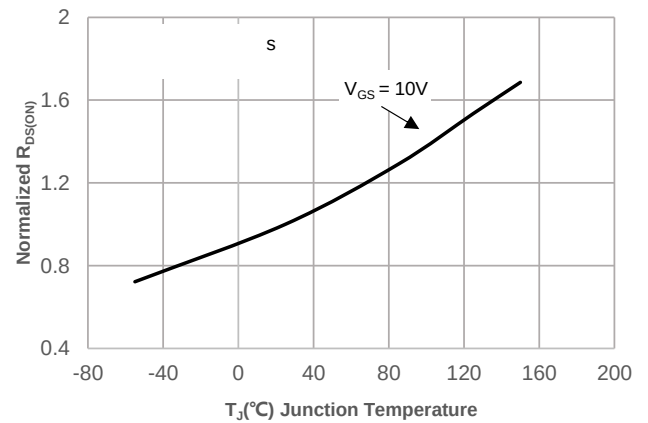


Figure 13: Normalized Threshold Voltage vs. Junction Temperature

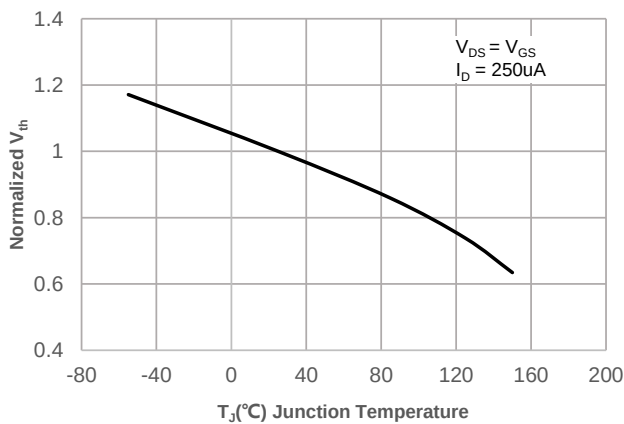


Figure 14: $R_{DS(ON)}$ vs. V_{GS}

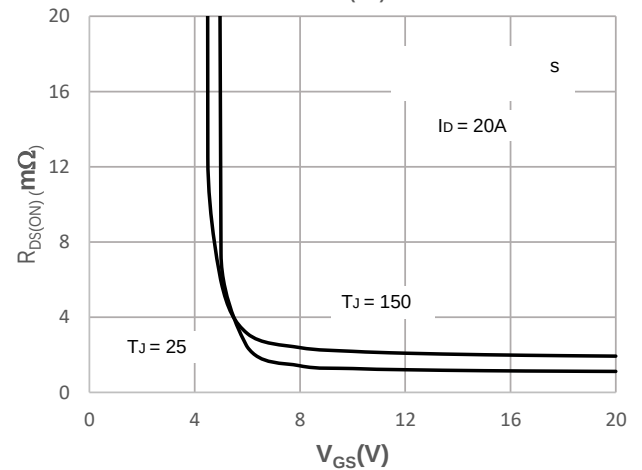
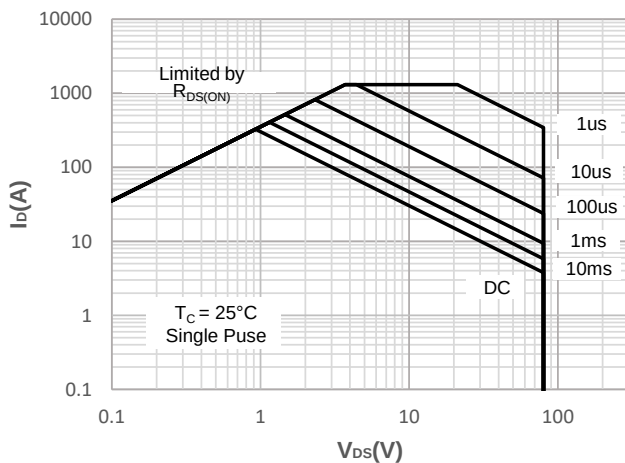


Figure 15: Maximum Safe Operating Area



Test Circuit



Figure 1: Gate Charge Test Circuit & Waveform

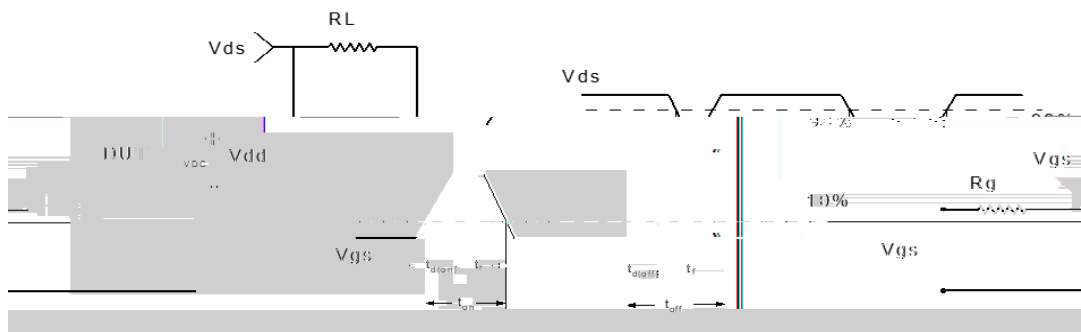


Figure 2: Resistive Switching Test Circuit & Waveform

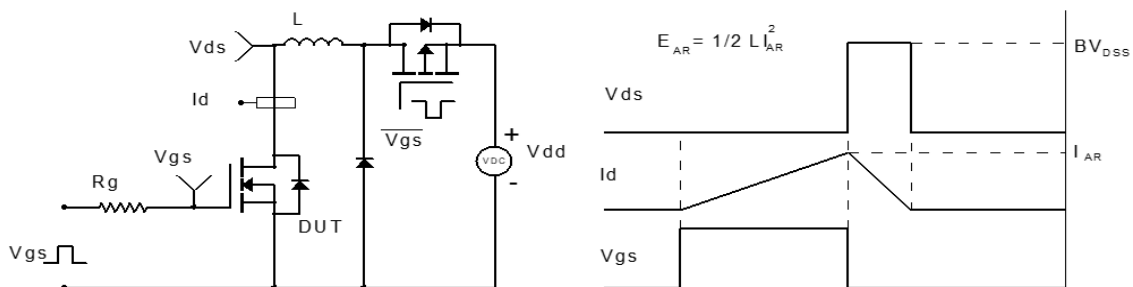


Figure 3: Unclamped Inductive Switching Test Circuit & Waveform

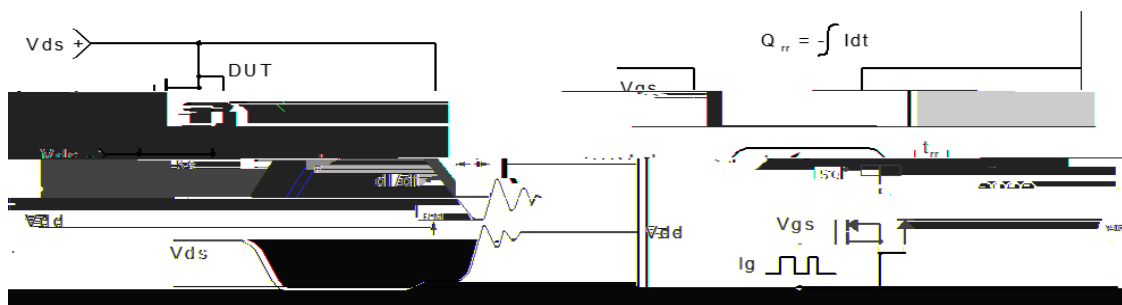
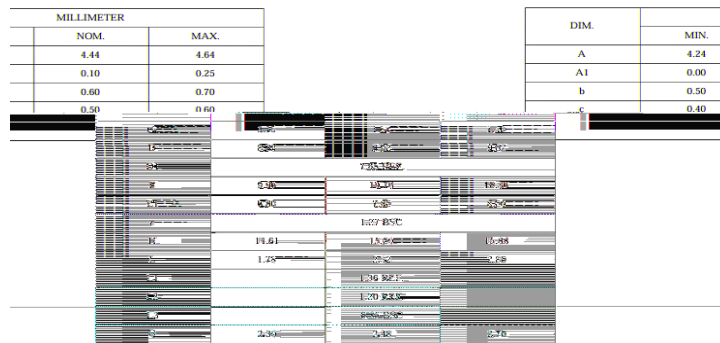
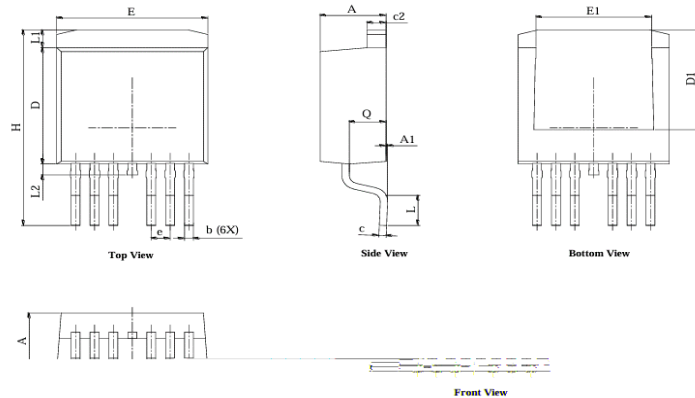


Figure 4: Diode Recovery Test Circuit & Waveform

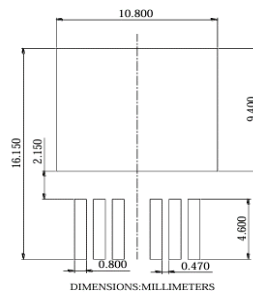
Package Mechanical Data(TO-263-7L)

Package Outline



Recommended Soldering Footprint

Recommended



Information furnished in this document is believed to be accurate and reliable. However, Jiangsu JieJie Microelectronics Co.,Ltd assumes no responsibility for the consequences of use without consideration for such information nor use beyond it. Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu JieJie complies with the agreement. Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information.

 is a registered trademark of Jiangsu JieJie Microelectronics Co.,Ltd.