

JMTP160P03D

Features

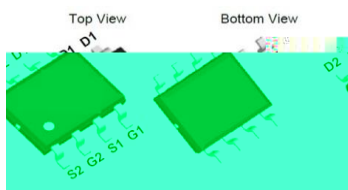
- Excellent $R_{DS(ON)}$ and Low Gate Charge
- 100% UIS Tested
- Halogen-free; RoHS-compliant
- Pb-free plating

Applications

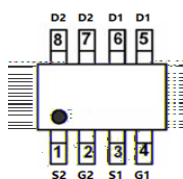
- Load Switch
- PWM Application
- Power Management

Product Summary

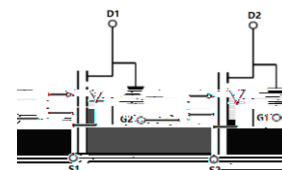
Parameters	Value	Unit
V_{DSS}	-30	V
$V_{GS(th_Typ)}$	-1.7	V
$I_D(@V_{GS}=10V)$	-11	A
$R_{DS(ON_Typ)}(@V_{GS}=-10V)$	12	$m\Omega$
$R_{DS(ON_Typ)}(@V_{GS}=-4.5V)$	16	$m\Omega$



SOP-8L_Dual



Pin Assignment



Schematic Diagram

Ordering Information

Device	Marking	MSL	Form	Package	Reel(pcs)	Per Carton (pcs)
JMTP160P03D	160P03D	3	Tape&Reel	SOP-8	4000	48000

Absolute Maximum Ratings (@ $T_A = 25^\circ\text{C}$ 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	$T_A = 25^\circ\text{C}$	-11
		$T_A = 100^\circ\text{C}$	-7
I_{DM}	Pulsed Drain Current ⁽¹⁾	Refer to Fig.4	A
E_{AS}	Single Pulsed Avalanche Energy ⁽²⁾	65	mJ
P_D	Power Dissipation	$T_A = 25^\circ\text{C}$	2.8
		$T_A = 100^\circ\text{C}$	1.1
T_J, T_{STG}	Junction & Storage Temperature Range	-55 to 150	$^\circ\text{C}$

Thermal Characteristics

Symbol	Parameter	Max	Unit
$R_{\theta 5}$	Thermal Resistance, Junction to Ambient ⁽³⁾	112	$^\circ\text{C/W}$
$R_{\theta 5}$	Thermal Resistance, Junction to Ambient ⁽⁴⁾	45	





Typical Performance Characteristics

Figure 1: Power De-rating

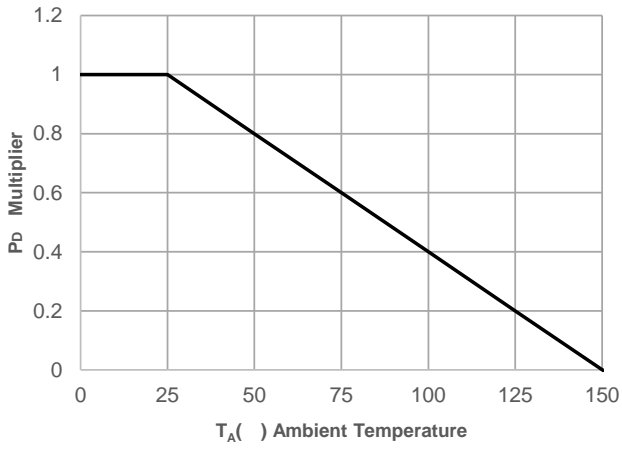
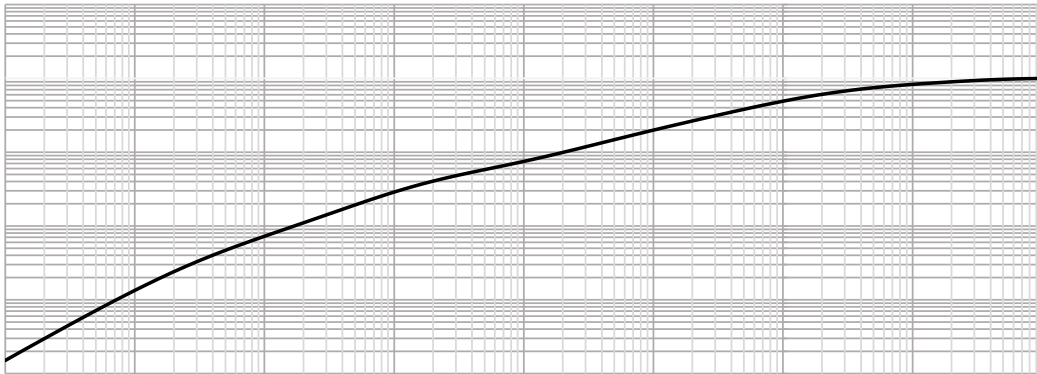
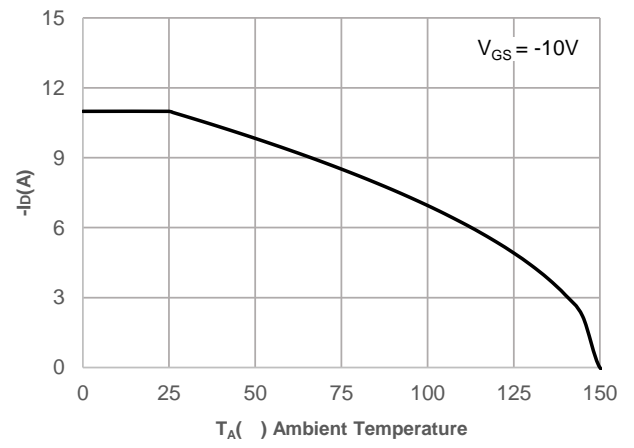
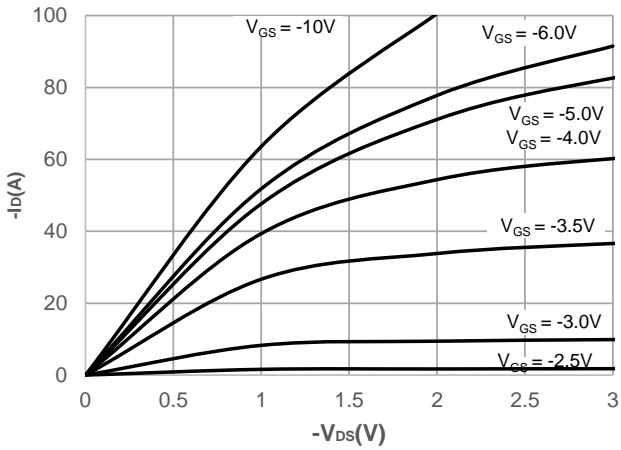
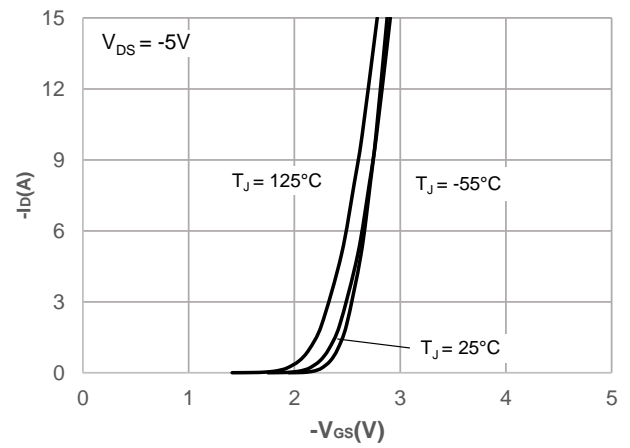
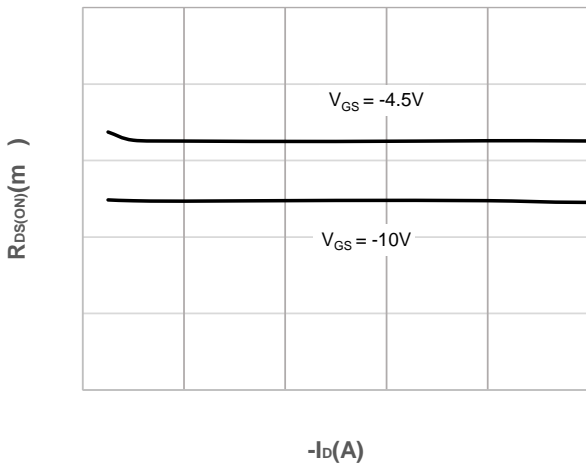
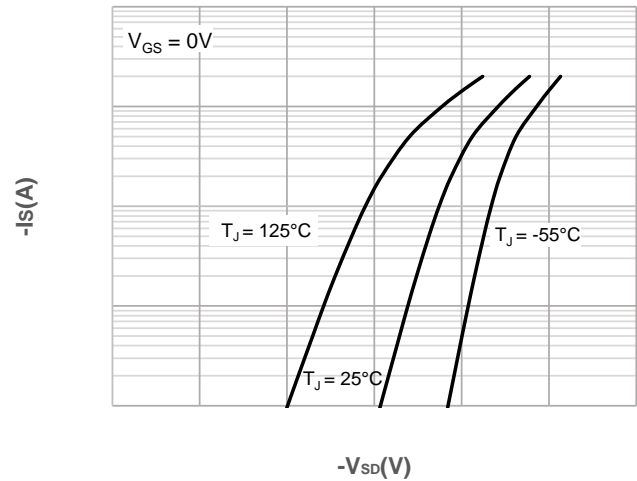
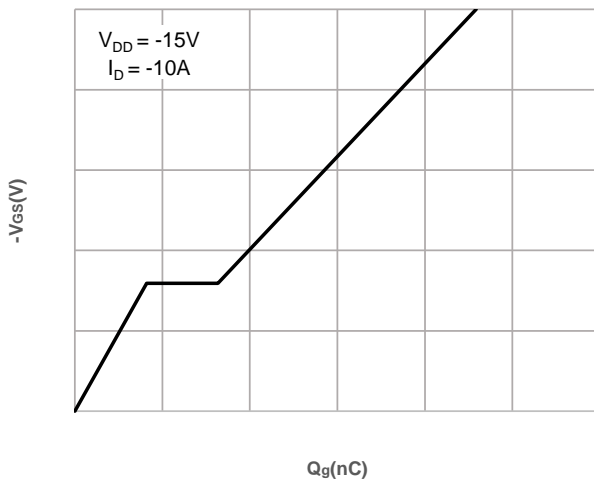
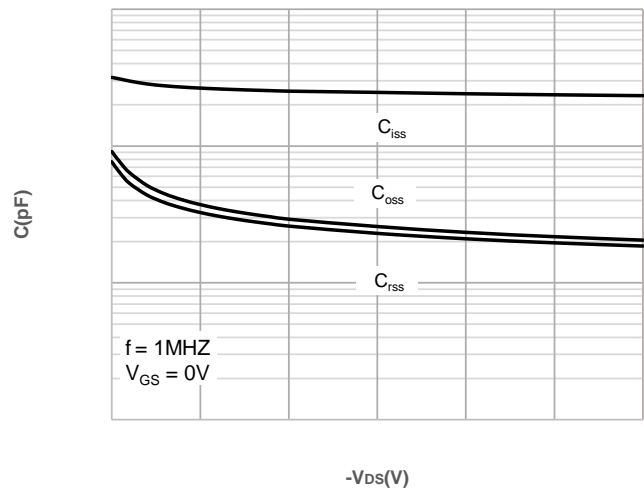


Figure 2: Current De-rating



Typical Performance Characteristics

Figure 5: Output Characteristics

Figure 6: Typical Transfer Characteristics

Figure 7: On-resistance vs. Drain Current

Figure 8: Body Diode Characteristics

Figure 9: Gate Charge Characteristics

Figure 10: Capacitance Characteristics


Typical Performance Characteristics

Figure 11: Normalized Breakdown voltage vs. Junction Temperature

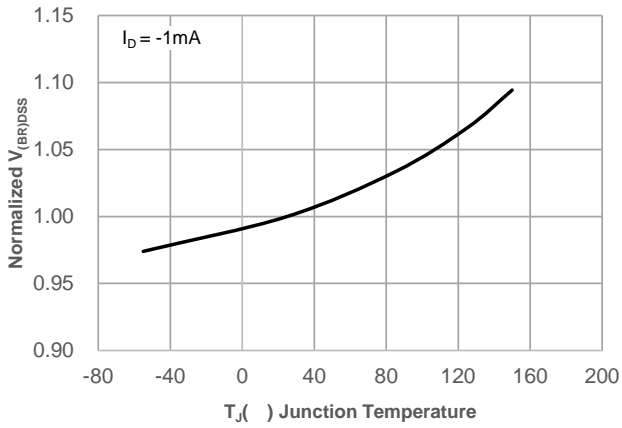


Figure 12: Normalized on Resistance vs. Junction Temperature

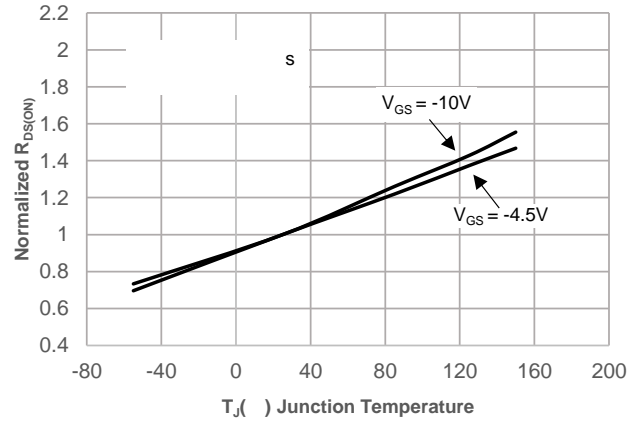


Figure 13: Normalized Threshold Voltage vs. Junction Temperature

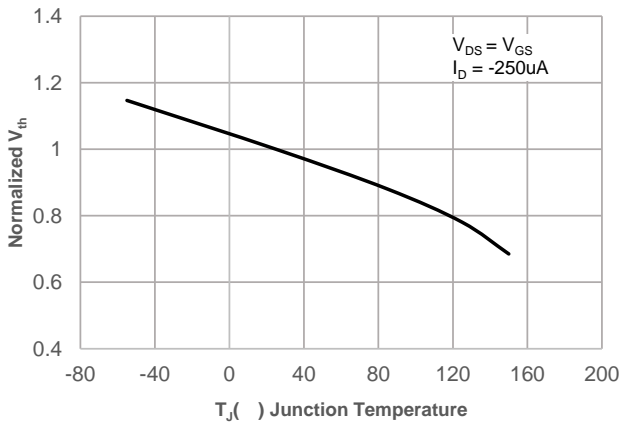


Figure 14: $R_{DS(ON)}$ vs. V_{GS}

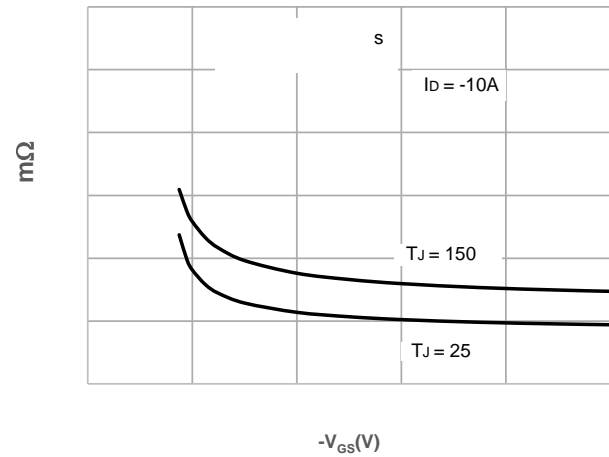
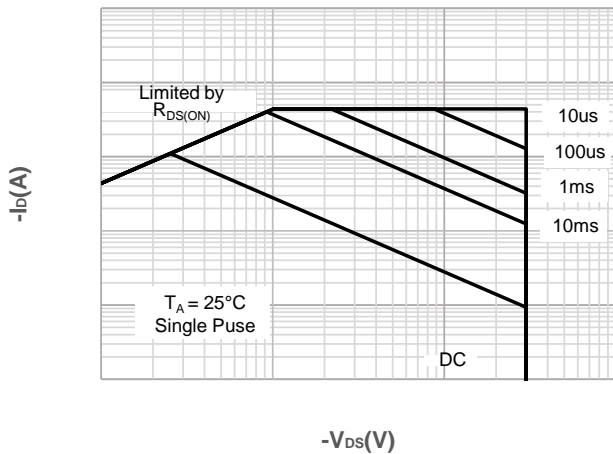


Figure 15: Maximum Safe Operating Area



Test Circuit

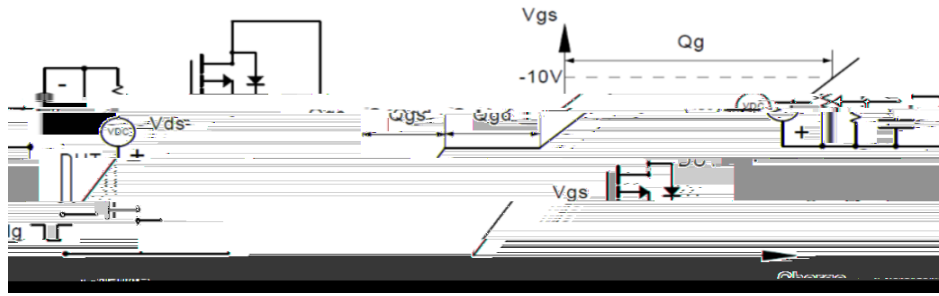


Figure 1: Gate Charge Test Circuit & Waveform

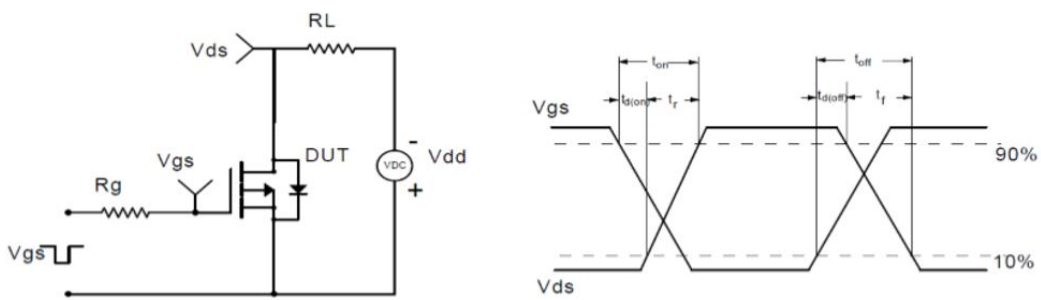


Figure 2: Resistive Switching Test Circuit & Waveform

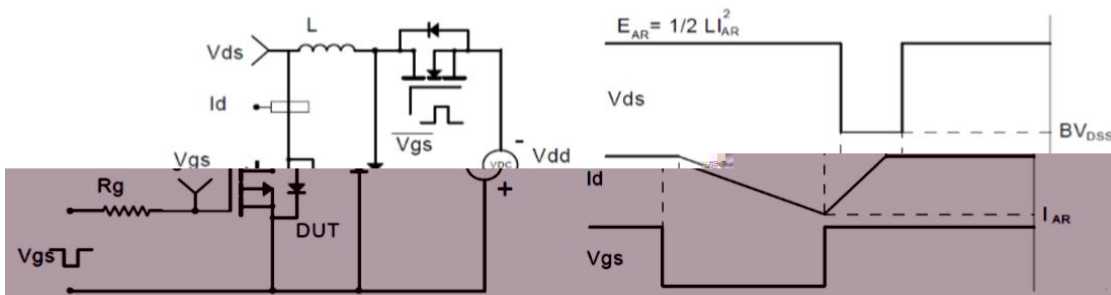


Figure 3: Unclamped Inductive Switching Test Circuit & Waveform

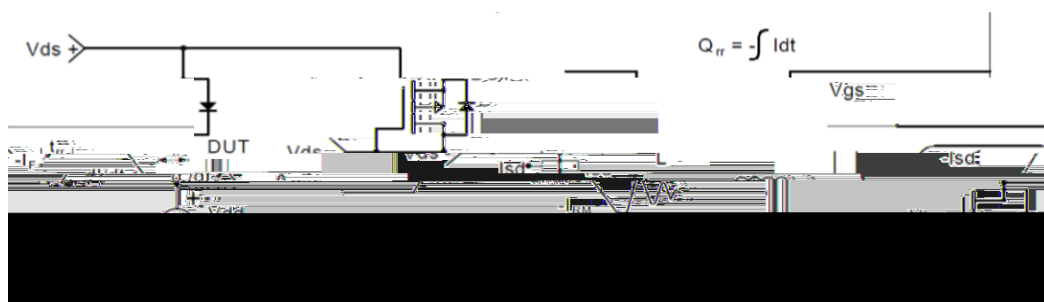
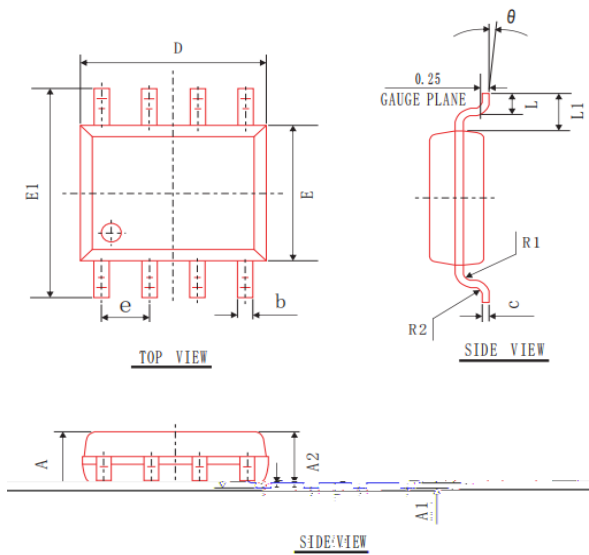


Figure 4: Diode Recovery Test Circuit & Waveform

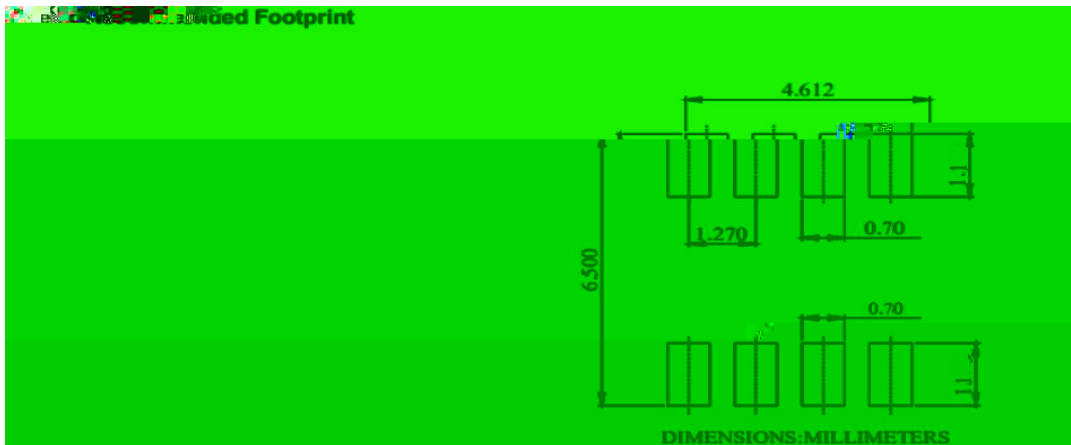


Package Mechanical Data(SOP-8L)



COMMON DIMENSIONS
(UNITS OF MEASURE=mm)

SYMBOL	MIN	NOM	MAX
A	1.40	1.60	1.80
A1	0.05	0.15	0.25
A2	1.35	1.45	1.55
b	0.30	0.40	0.50
C	0.153	0.203	0.253
D	4.80	4.90	5.00
E	3.80	3.90	4.00
E1	5.80	6.00	6.20



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