

JMH65R190PFFD

Product Summary

Parameters	Value	Unit
V_{DSS}	650	V
$V_{GS(th_Typ)}$	3.6	V
$I_D(@V_{GS}=10V)$	12	A
$R_{DS(ON)_Typ}(@V_{GS}=10V)$	148	m Ω

Ordering Information

Device	Marking	MSL	Form	Package	Tube(pcs)	Per Carton (pcs)
JMH65R190PFFD-U	H65R190PF	N/A	Tube	TO-220FP	50	5000

Absolute Maximum Ratings (@ $T_C = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Value	Unit	
V_{DS}	Drain-to-Source Voltage	650	V	
V_{GS}	Gate-to-Source Voltage	± 30	V	
I_D	Continuous Drain Current	$T_C = 25^\circ\text{C}$	12	A
		$T_C = 100^\circ\text{C}$	7.6	
I_{DM}	Pulsed Drain Current ⁽¹⁾	Refer to Fig.4	A	
E_{AS}	Single Pulsed Avalanche Energy ⁽²⁾	65	mJ	
P_D	Power Dissipation	$T_C = 25^\circ\text{C}$	71	W
		$T_C = 100^\circ\text{C}$	28	
T_J, T_{STG}	Junction & Storage Temperature Range	-55 to 150	$^\circ\text{C}$	

Thermal Characteristics

Symbol	Parameter	Max	Unit
R	Thermal Resistance, Junction to Ambient ⁽³⁾	58	$^\circ\text{C/W}$
R	Thermal Resistance, Junction to Case	1.8	

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	$I_D = 250\mu\text{A}, V_{GS} = 0\text{V}$	650	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = 650\text{V}, V_{GS} = 0\text{V}$	-	-	10.0	μA
I_{GSS}	Gate-Body Leakage Current	$V_{DS} = 0\text{V}, V_{GS} = \pm 30\text{V}$	-	-	± 100	nA
On Characteristics						
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D$	2.5	3.6	4.6	V
$R_{DS(ON)}$			-	148	190	m Ω
R_g			-	4.9	-	Ω
C_{iss}	Input Capacitance	$V_{GS} = 0\text{V}, V_{DS} = 325\text{V},$ $f = 1\text{MHz}$	1084	1517	2049	pF
C_{oss}	Output Capacitance		28	39	52	pF
C_{riss}	Reverse Transfer Capacitance		-	5.9	-	pF
Q_g			23	32	43	nC
Q_{gs}			-	10	-	nC
Q_{gd}			-	11	-	nC
$t_{d(on)}$			-	36	-	ns
t_r			-	38	-	ns
$t_{d(off)}$			-	100	-	ns
t_f			-	30	-	ns
I_S			-	-	12	A
I_{SM}			-	-	48	A
V_{SD}			-	-	1.2	V
t_{rr}			94	131	177	ns
Q_{rr}			-	851	-	nC

- Notes:
1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature.
 2. E_{AS} condition: Starting $T_J=25^\circ\text{C}$, $V_{DD}=50\text{V}$, $V_{GS}=10\text{V}$, $R_G=25\text{ohm}$, $L=10\text{mH}$, $I_{AS}=3.6\text{A}$, $V_{DD}=0\text{V}$ during time in avalanche.
 3. R is measured with the device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.
 4. Pulse Test: Pulse Width 0.5%.



Typical Performance Characteristics

Figure 1: Power De-rating

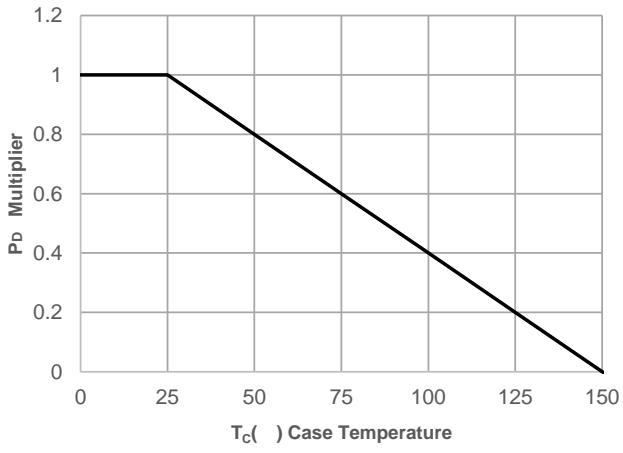
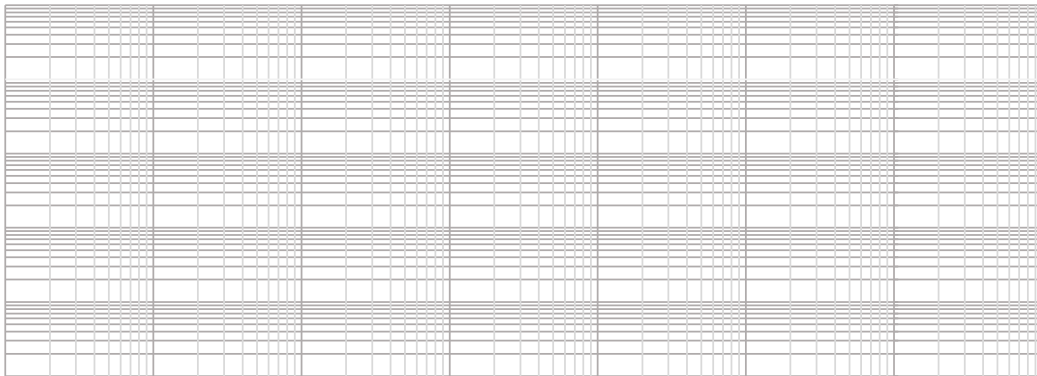
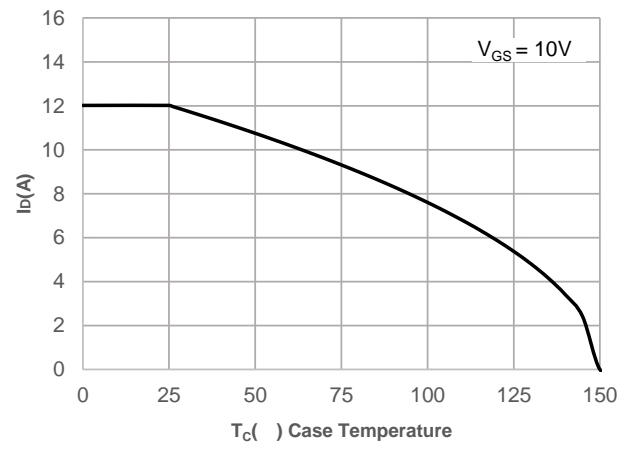
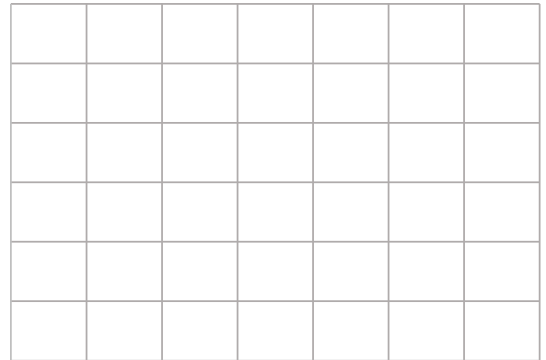
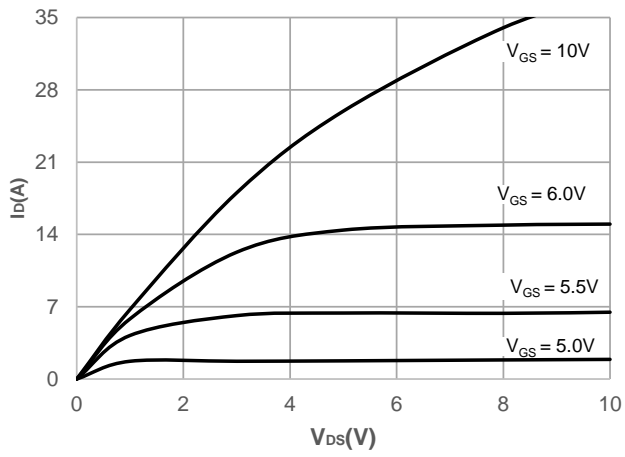


Figure 2: Current De-rating



Typical Performance Characteristics

Figure 5: Output Characteristics



Typical Performance Characteristics

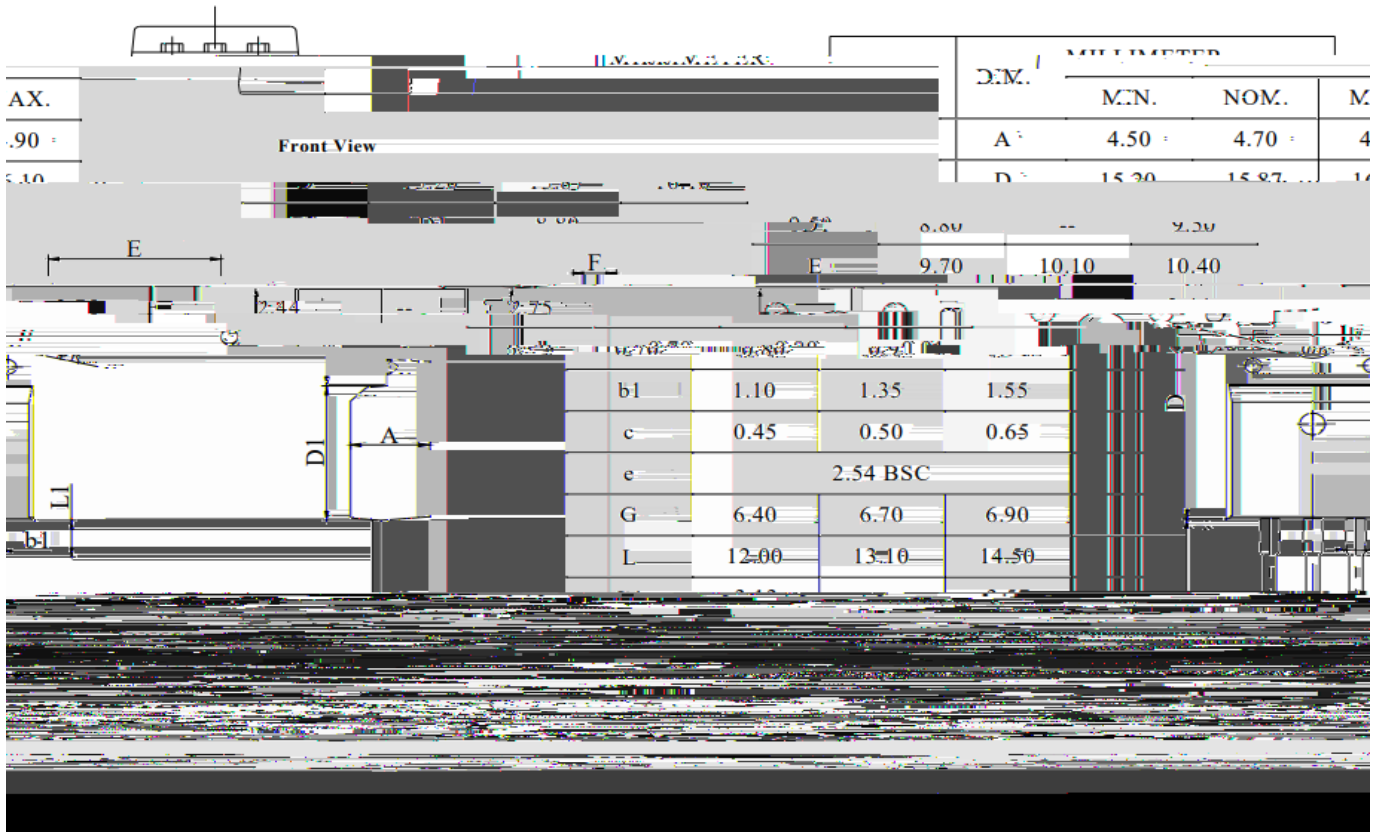
Test Circuit

Figure 1: Gate Charge Test Circuit & Waveform



Package Mechanical Data(TO-220F-3L)

Package Outline



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.

