

JMPK6N70BJ

Product Summary

Parameters	Value	Unit
V_{DSS}	700	V
$V_{GS(th)_Typ}$	3.0	V
$I_D(@V_{GS}=10V)$	6	A
$R_{DS(ON)_Typ}(@V_{GS}=10V)$	1251	m Ω

Ordering Information

Device	Marking	MSL	Form	Package	Reel(pcs)	Per Carton (pcs)
JMPK6N70BJ	JMPK6N70BJ	3	Tape&Reel	TO-252-3L	2500	25000

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

Symbol	Parameter	Value	Unit
V_{DS}	Drain-to-Source Voltage	700	V
V_{GS}	Gate-to-Source Voltage	± 30	V
		$T_C = 25^\circ\text{C}$	∞
		$T_C = 100^\circ\text{C}$	4
I_{DM}	Pulsed Drain Current	Refer to Fig.4	A
E_{AS}	Single Pulsed Avalanche Energy ⁽²⁾	157	mJ
		$T_C = 25^\circ\text{C}$	W
		$T_C = 100^\circ\text{C}$	W
T_J, T_{STG}			$^\circ\text{C}$

Symbol	Unit
R	
R	

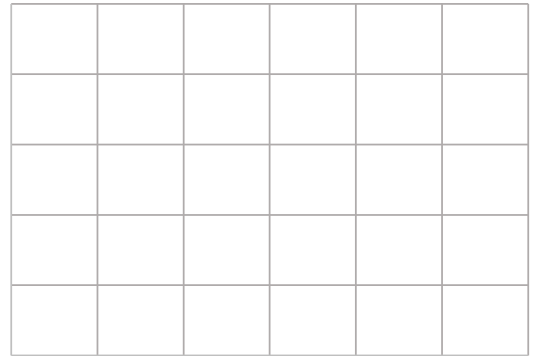
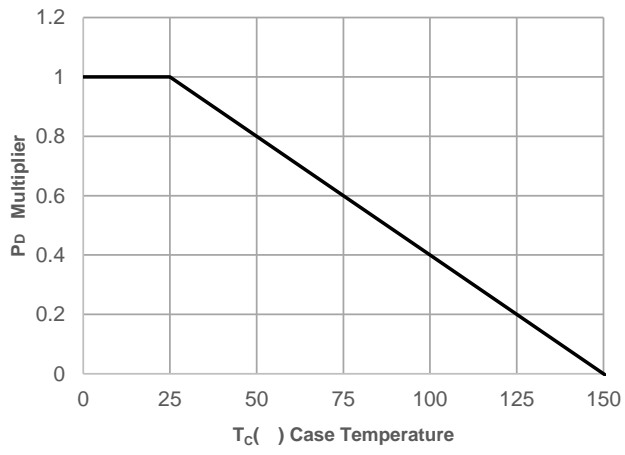
Electrical Characteristics (T_J = 25°C unless otherwise specified)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
Off Characteristics						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	I _D = 250μA, V _{GS} = 0V	700	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 700V, V _{GS} = 0V	-	-	1.0	μA
I _{GSS}	Gate-Body Leakage Current	V _{DS} = 0V, V _{GS} = ±30V	-	-	±100	nA
On Characteristics						
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = 250μA	2.1	3.0	3.9	V
R _{DS(ON)}			-	1251	1627	mΩ
R _g			-	2.3	-	Ω
C _{iss}			-	1144	-	pF
C _{oss}			-	30	-	pF
C _{rss}			-	7.4	-	pF
Q _g			-	24	-	nC
Q _{gs}			-	6.0	-	nC
Q _{gd}	Gate Drain("Miller") Charge		-	7.0	-	nC
Switching Characteristics						
t _{d(on)}	Turn-On Delay Time		-	12	-	ns
t _r	Turn-On Rise Time		-	16	-	ns
t _{d(off)}	Turn-Off Delay Time		-	32	-	ns
t _f	Fall Time		-	23	-	ns
I _S			-	-	6	A
I _{SM}	Maximum Pulsed Body Diode Forward Current		-	-	24	A
V _{SD}			-	-	1.2	V
t _{rr}			-	261	-	ns
Q _{rr}			-	1998	-	nC

- Notes:
1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature.
 2. E_{AS} condition: Starting T_J=25°C, V_{DD}=50V, V_{GS}=10V, R_G=25ohm, L=10mH, I_{AS}=5.6A, V_{DD}=0V during time in avalanche.
 3. R_{θJC} 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



Typical Performance Characteristics

Figure 5: Output Characteristics

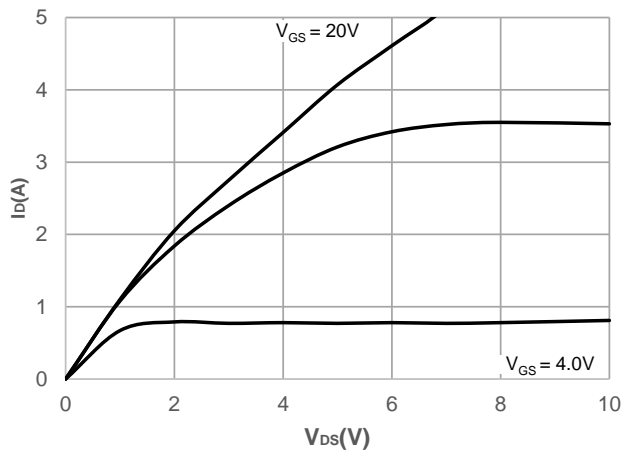
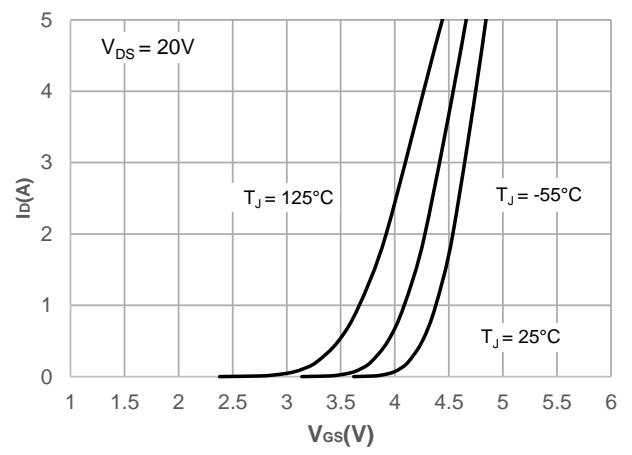


Figure 6: Typical Transfer Characteristics



Typical Performance Characteristics

Test Circuit

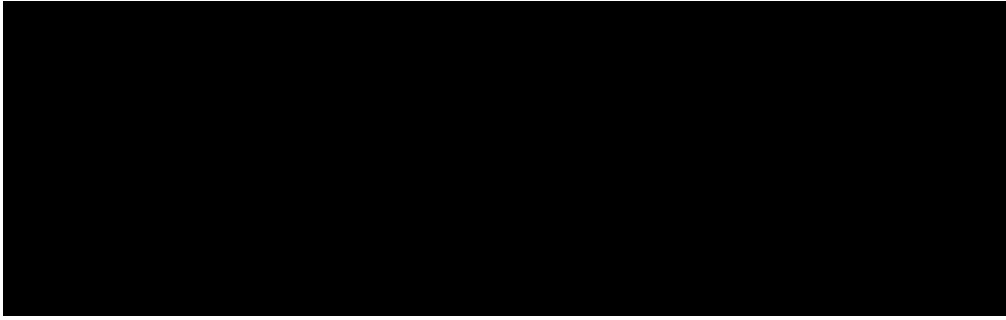


Figure 1: Gate Charge Test Circuit & Waveform

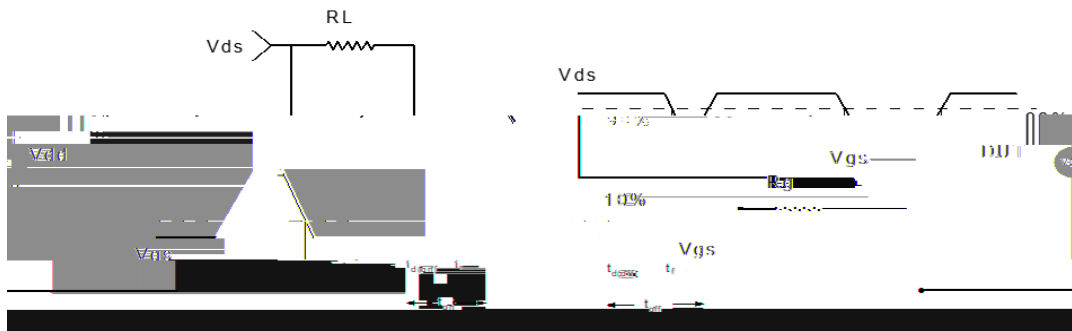


Figure 2: Resistive Switching Test Circuit & Waveform

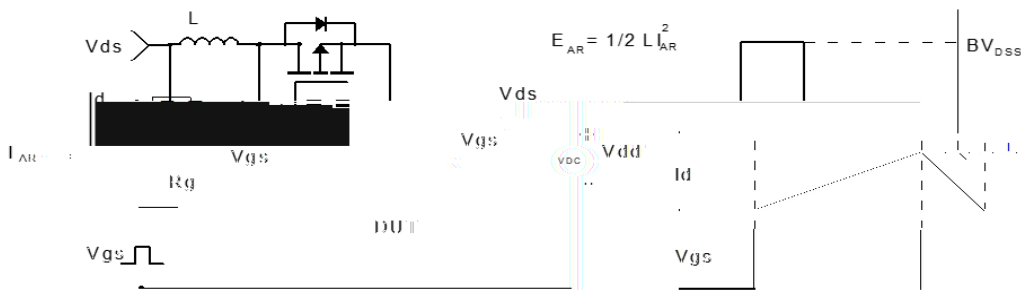


Figure 3: Unclamped Inductive Switching Test Circuit & Waveform

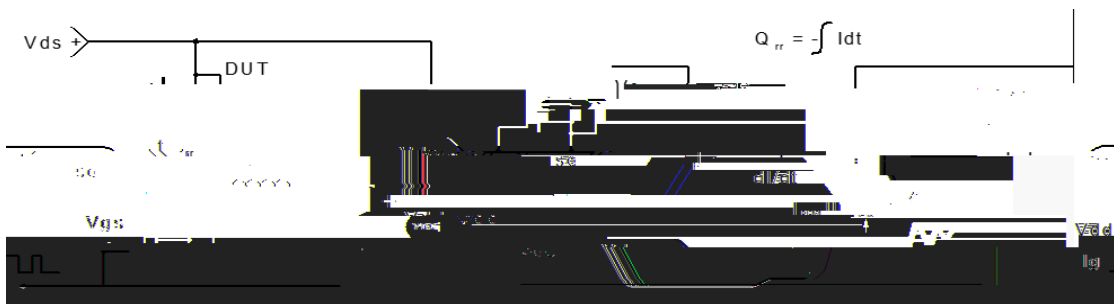
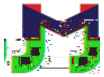
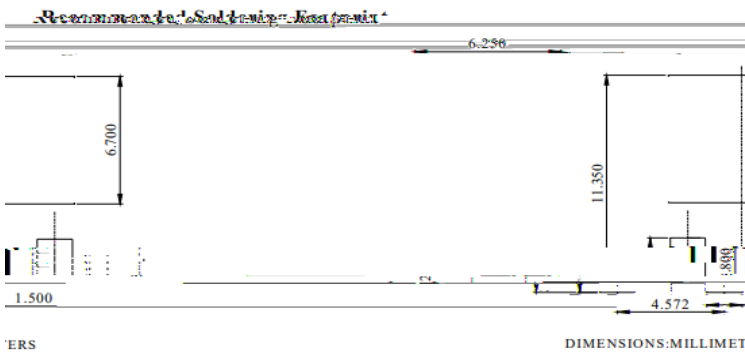
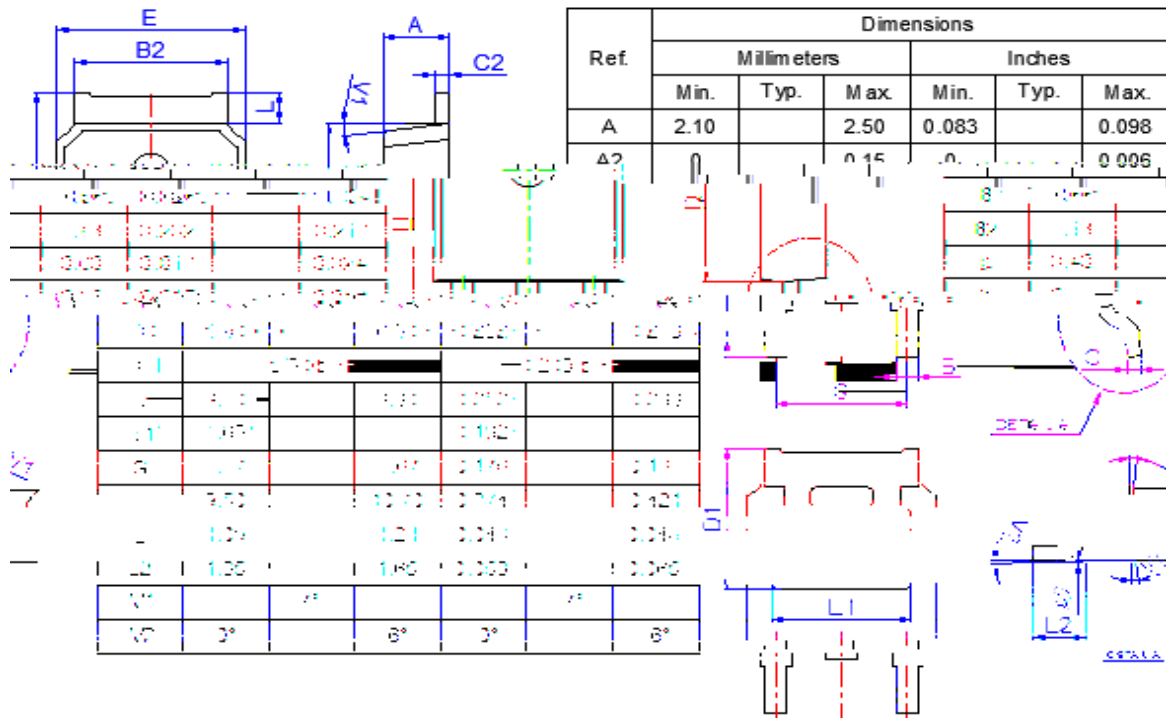


Figure 4: Diode Recovery Test Circuit & Waveform





Package Mechanical Data(TO-252-3L)



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.

