



Average gate power dissipation ($T_j=125^{\circ}\text{C}$)	$P_{G(AV)}$	0.5	W
Peak gate power	P_{GM}	5	W
Peak pulse voltage ($T_j=25^{\circ}\text{C}$; non-repetitive, off-state; FIG.8)	V_{PP}	3.5	kV

(T_j=25°C unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I _{GT}	V _D =12V R _L =33	I - II - III	MAX.	10	mA
		IV		25	
V _{GT}		ALL	MAX.	1.3	V
V _{GD}	V _D =V _{DRM} T _j =125°C R _L =3.3K	ALL	MIN.	0.2	V
I _L	I _G =1.2I _{GT}	I - III - IV	MAX.	15	mA
		II		30	
I _H	I _T =50mA		MAX.	15	mA
dV/dt	V _D =400V Gate Open T _j =110°C		MIN.	250	V/μs
(dV/dt) _c	(dI/dt) _c =0.44A/ms, T _j =110°C		MIN.	6	V/μs
t _{on}	I _G =40mA I _A =200mA I _R =20mA		TYP.	3	μs
t _{off}	T _j =25°C			30	

Symbol	Parameter		Value(MAX.)	Unit
V _{TM}	I _{TM} =1.4A t _p =380μs	T _j =25°C	1.45	V
V _{TO}	Threshold voltage	T _j =125°C	0.96	V
R _D	Dynamic resistance	T _j =125°C	225	m
I _{DRM}	V _D =V _{DRM} V _R =V _{RRM}	T _j =25°C	5	μA
I _R RM		T _j =125°C	0.2	mA

Symbol	Parameter	Value	Unit
R _{th(j-c)}	junction to case (AC)	50	°C/W
R _{th(j-a)}	junction to ambient (AC, in free air, S=5cm ²)	100	°C/W

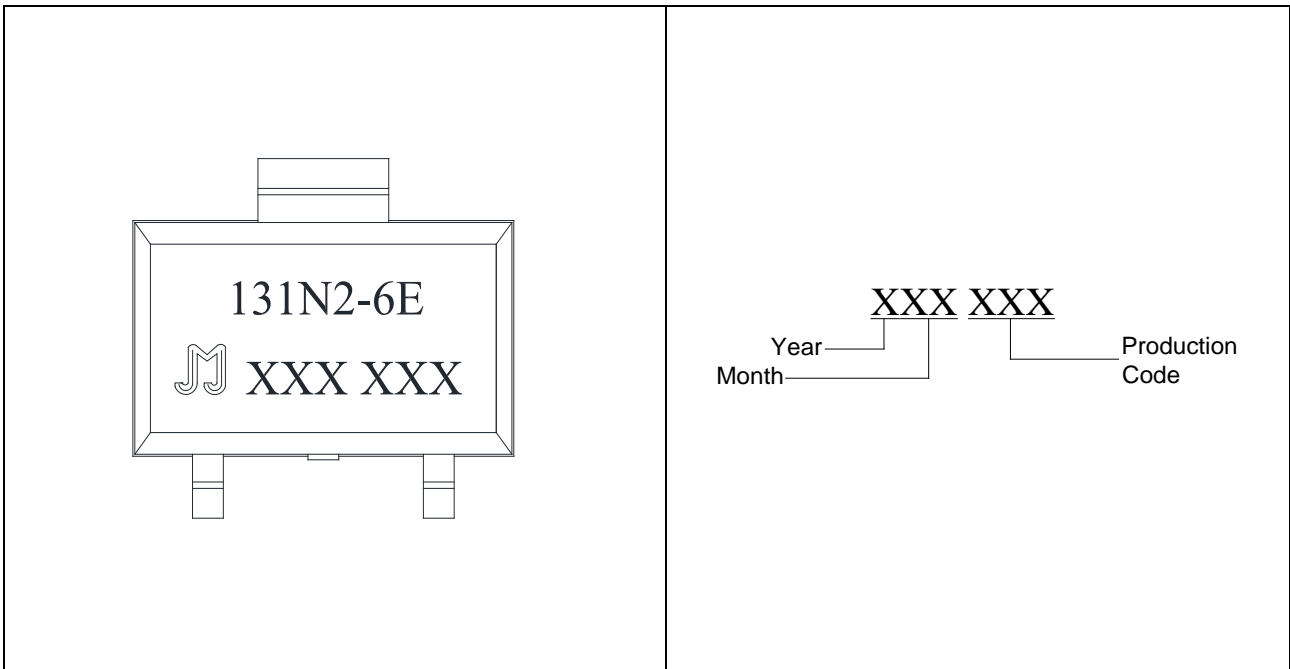
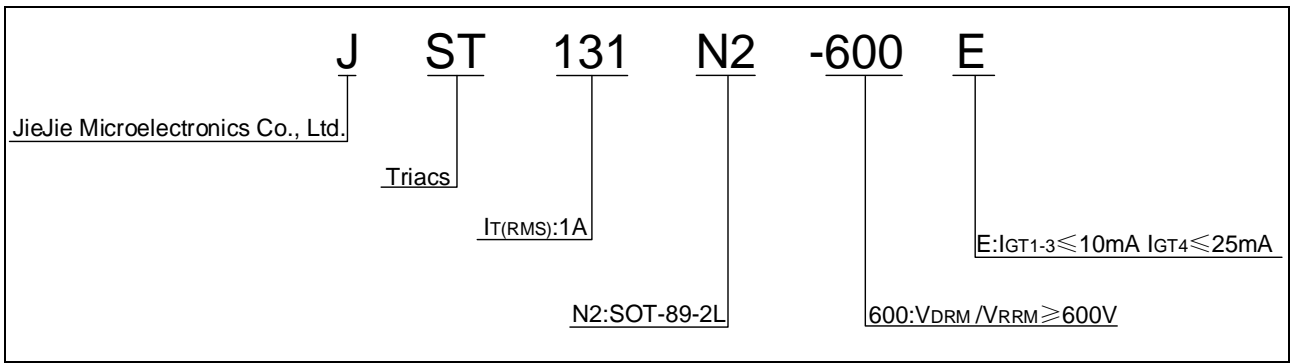


FIG.1 Maximum power dissipation versus RMS on-state current

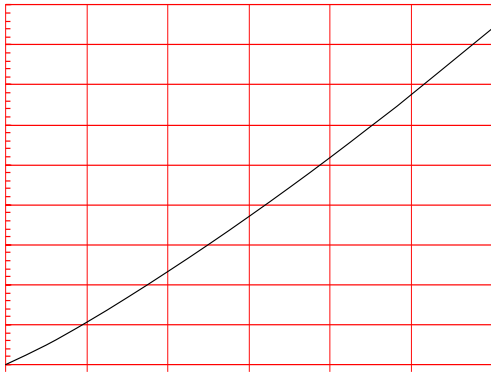


FIG.2: RMS on-state current versus case temperature

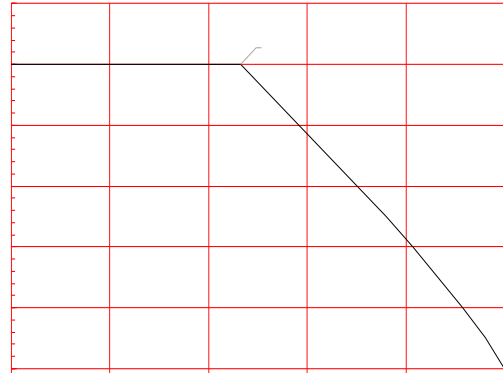


FIG.3: RMS on-state current versus ambient temperature (printed circuit board FR4, copper thickness: 35μm) (full cycle)

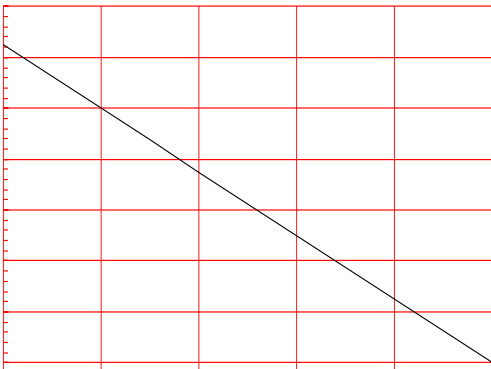


FIG.4: Surge peak on-state current versus number of cycles

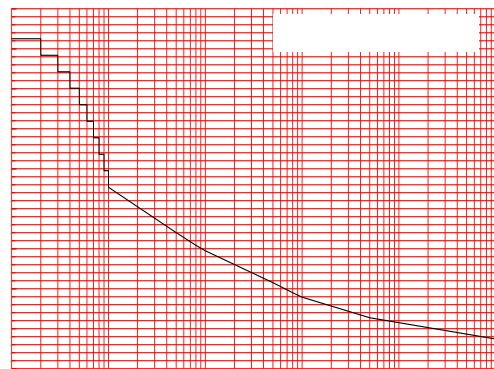


FIG.5: On-state characteristics

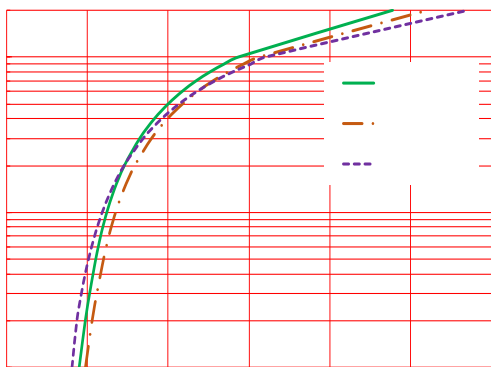


FIG.6: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t (I - II -III: $di/dt < 70\text{A}/\mu\text{s}$; IV: $di/dt < 40\text{A}/\mu\text{s}$)

FIG.7: Relative variations of gate trigger current, holding current and latching current versus junction temperature

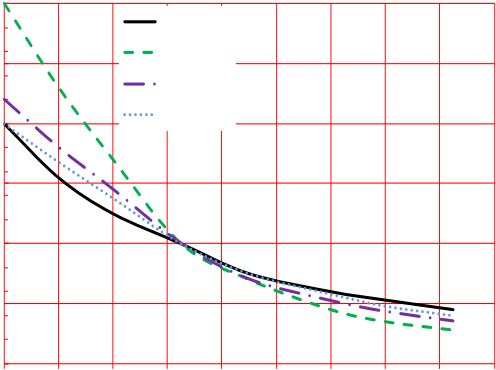
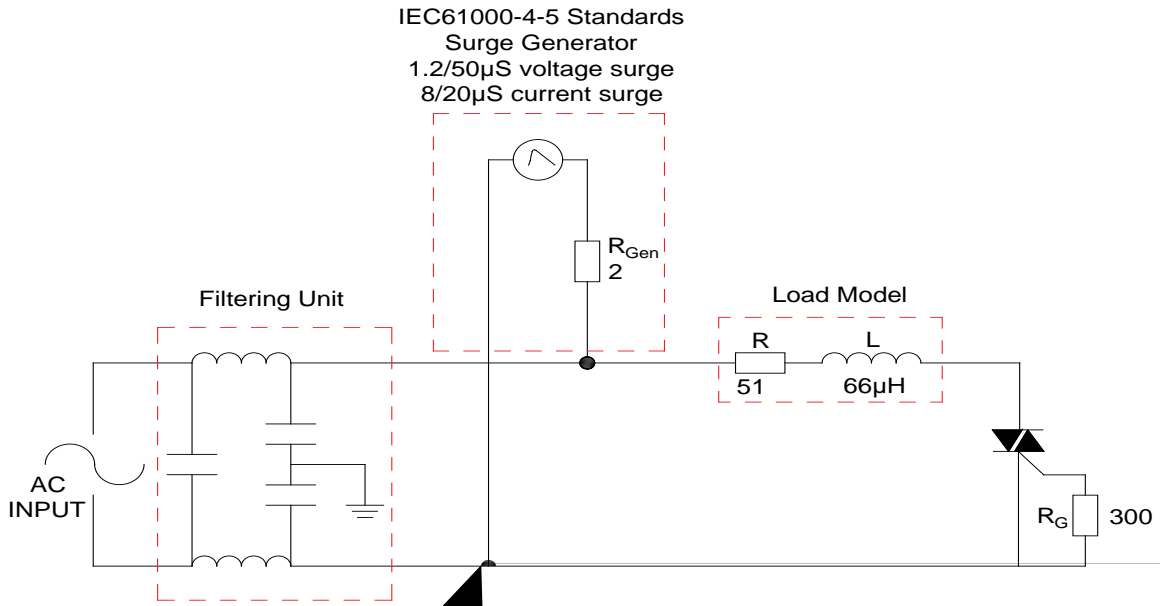


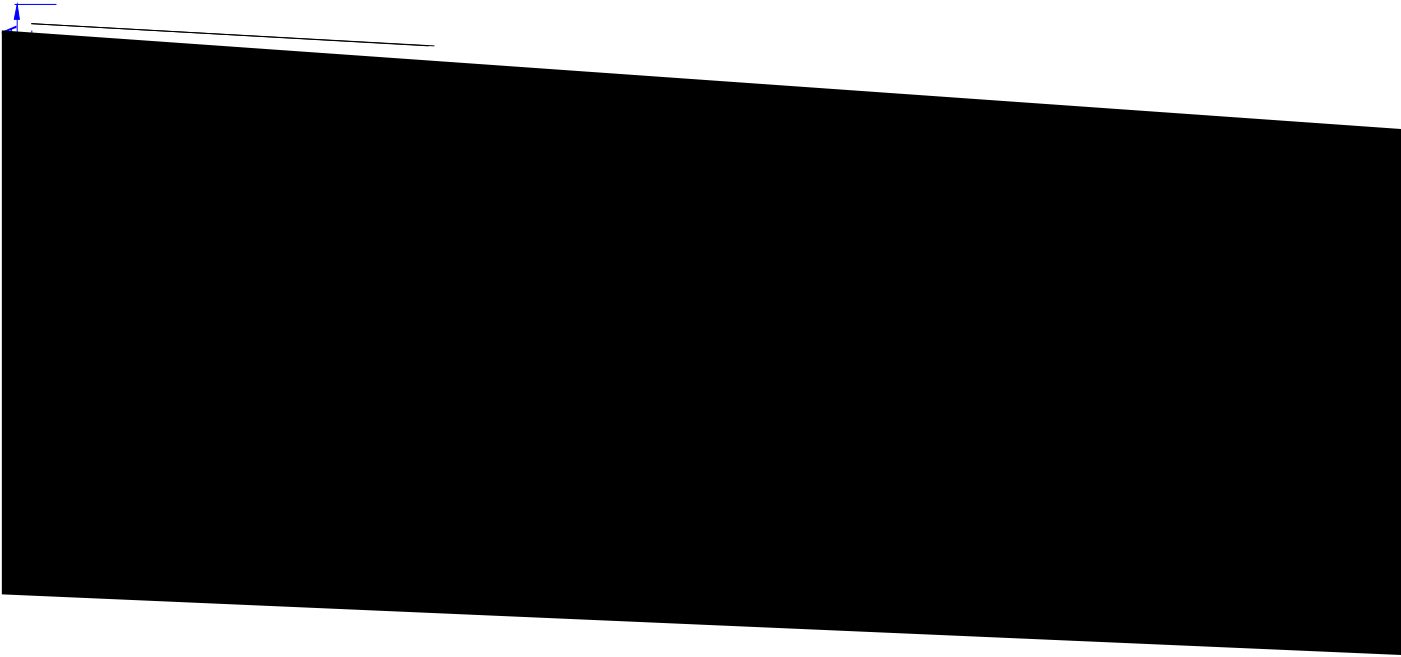
FIG.8: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



Order code	Voltage V _{DRM} /V _{RRM} (V)	IGT(mA)		Package	Base qty. (pcs)	Delivery mode
		-	-			
JST131N2-600E	600	10	25	SOT-89-2L	4,000	Tape & Reel

Document Revision History

Date	Revision	Changes
Apr.14, 2023	A.1.0	Last updated



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
E	1.65	1.75	1.85	0.065	0.069	0.073
F	5.45	5.50	5.55	0.215	0.217	0.219
P2	1.90	2.00	2.10	0.075	0.079	0.082
D	-	1.50	1.60	-	0.059	0.063
D1	1.50			0.059		
P0	3.90	4.00	4.10	0.154	0.157	0.161
10P0	39.80	40.00	40.20	1.567	1.575	1.583
W			12.30			0.482
P	7.90	8.00	8.10	0.311	0.315	0.319
A0	5.20	5.30	5.40	0.204	0.208	0.212
B0	4.80	4.90	5.00	0.188	0.192	0.196
K0	1.75	1.85	1.95	0.069	0.073	0.076
t	0.20	0.25	0.30	0.008	0.010	0.012
	3°		5°	3°		5°

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