

**Features:**

- n Isolated mounting base 2500V~
- n Pressure contact technology with Increased power cycling capability
- n Space and weight saving

**Typical Applications:**

- n Inverter
- n Inductive heating
- n Chopper

V <sub>RRM</sub> , V <sub>DRM</sub>	Type & Outline	
600V	MKx300-06-415F3	MHx300-06-415F3
800V	MKx300-08-415F3	MHx300-08-415F3
1000V	MKx300-10-415F3	MHx300-10-415F3
1200V	MKx300-12-415F3	MHx300-12-415F3
1400V	MKx300-14-415F3	MHx300-14-415F3
1600V	MKx300-16-415F3	MHx300-16-415F3
1800V	MKx300-18-415F3	MHx300-18-415F3
1800V	MK300-18-415F3G	

MKx stands for any type of **MKC, MKA, MKK**

MHx stands for any type of **MHC, MHA, MHK**

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	T <sub>j</sub> (°C)	VALUE			UNIT
				Min	Type	Max	
I <sub>T(AV)</sub>	Mean on-state current	180° half sine wave 50Hz Single side cooled, T <sub>c</sub> =85°C	125			300	A
I <sub>T(RMS)</sub>	RMS on-state current					471	A
I <sub>DRM</sub> I <sub>RRM</sub>	Repetitive peak current	at V <sub>DRM</sub> at V <sub>RRM</sub>	125			80	mA
I <sub>TSM</sub>	Surge on-state current	10ms half sine wave	125			7.30	kA
I <sup>2</sup> t	I <sup>2</sup> t for fusing coordination	V <sub>R</sub> =60%V <sub>RRM</sub>				266	10 <sup>3</sup> A <sup>2</sup> s
V <sub>TO</sub>	Threshold voltage		125			1.36	V
r <sub>T</sub>	On-state slope resistance					0.38	mΩ
V <sub>TM</sub>	Peak on-state voltage	I <sub>TM</sub> =900A	25			2.20	V
dv/dt	Critical rate of rise of off-state voltage	V <sub>DM</sub> =67%V <sub>DRM</sub>	125			800	V/μs
di/dt	Critical rate of rise of on-state current	Gate source 1.5A t <sub>r</sub> ≤ 0.5μs Repetitive	125			200	A/μs
t <sub>q</sub>	Circuit commutated turn-off time	I <sub>TM</sub> =300A, t <sub>p</sub> =4000μs, V <sub>R</sub> =100V dv/dt=30V/μs, di/dt=-20A/μs	125	20		40	μs
I <sub>GT</sub>	Gate trigger current	V <sub>A</sub> =12V, I <sub>A</sub> =1A	25	30		200	mA
V <sub>GT</sub>	Gate trigger voltage			0.8		3.0	V
I <sub>H</sub>	Holding current			20		200	mA
I <sub>L</sub>	Latching current					1000	mA
V <sub>GD</sub>	Non-trigger gate voltage			V <sub>DM</sub> = 67%V <sub>DRM</sub>	125		
R <sub>th(j-c)</sub>	Thermal resistance Junction to case	Single side cooled per chip				0.080	°C/W
R <sub>th(c-h)</sub>	Thermal resistance case to heatsink	Single side cooled per chip				0.040	°C/W
V <sub>iso</sub>	Isolation voltage	50Hz, R.M.S, t=1min, I <sub>iso</sub> :1mA(MAX)		2500			V
F <sub>m</sub>	Terminal connection torque(M10)			10.0		12.0	N·m
	Mounting torque(M6)			4.5		6.0	N·m
T <sub>vj</sub>	Junction temperature			-40		125	°C
T <sub>stg</sub>	Stored temperature			-40		125	°C
W <sub>t</sub>	Weight				1260		g
Outline	415F3						

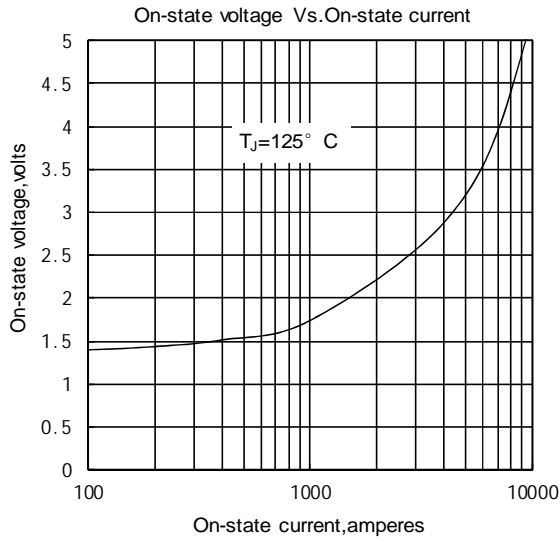


Fig.1

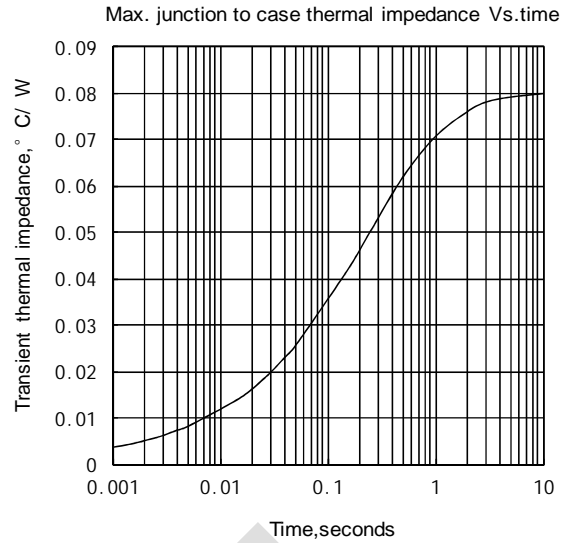


Fig.2

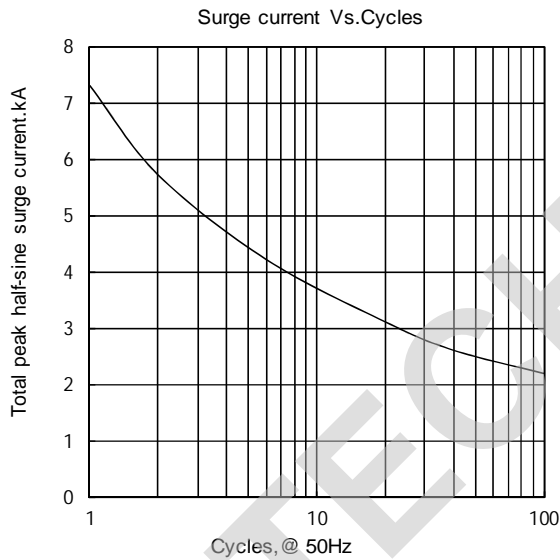


Fig.3

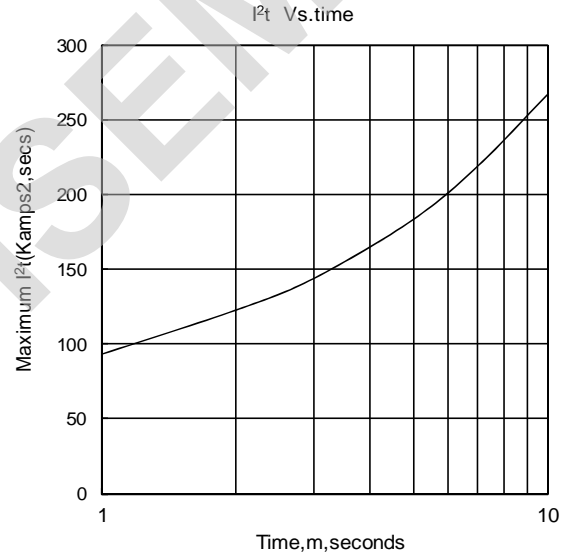


Fig.4

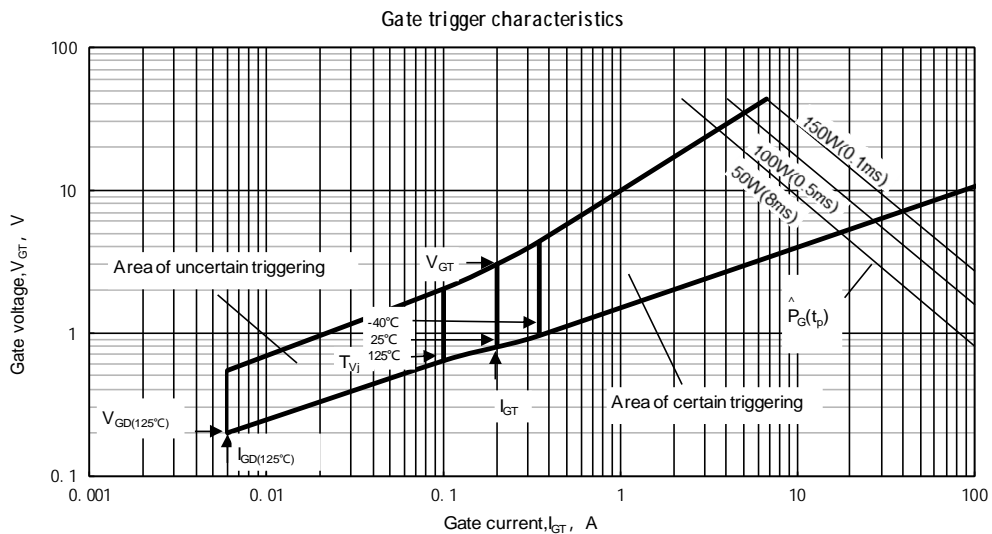
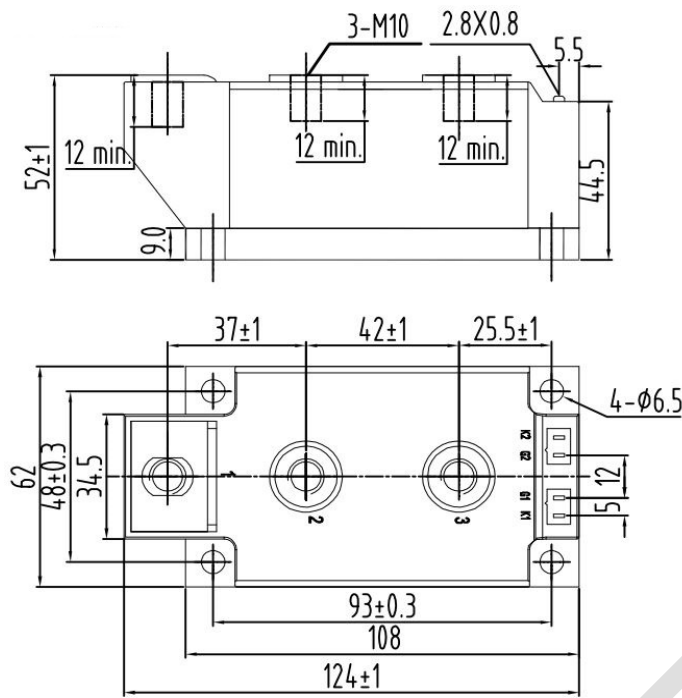


Fig.5

Outline:



Unmarked dimensional tolerance:  $\pm 0.5$ mm

TECHSEM reserves the right to change specifications without notice.

