

**Features:**

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

**Typical Applications**

- Inverter
- Inductive heating
- Chopper

V <sub>DSM</sub> , V <sub>RSM</sub>	V <sub>DRM</sub> , V <sub>RRM</sub>	Type & Outline
700V	600V	MKx300-06-415F3
900V	800V	MKx300-08-415F3
1100V	1000V	MKx300-10-415F3
1300V	1200V	MKx300-12-415F3
1500V	1400V	MKx300-14-415F3
1700V	1600V	MKx300-16-415F3

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	115			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>	115			80	mA
I <sub>TSM</sub>	Surge on-state current	10ms half sine wave	115			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	A <sup>2</sup> s*10 <sup>3</sup>
V <sub>TO</sub>	Threshold voltage		115			0.90	V
r <sub>T</sub>	On-state slope resistance					0.74	mΩ
V <sub>TM</sub>	Peak on-state voltage	I <sub>TM</sub> =900A	25			1.75	V
dv/dt	Critical rate of rise of off-state voltage	V <sub>DM</sub> =67%V <sub>DRM</sub>	115			800	V/μs
di/dt	Critical rate of rise of on-state current	Gate source 1.5A t <sub>r</sub> ≤ 0.5μs Repetitive	115			200	A/μs
t <sub>q</sub>	Circuit commutated turn-off time	I <sub>TM</sub> =300A, t <sub>p</sub> =1000μs, V <sub>R</sub> =50V dv/dt=30V/μs , di/dt=-20A/μs	115	15		35	μs
t <sub>rr</sub>	Reverse recovery time	I <sub>FM</sub> =300A, t <sub>p</sub> =1000μs, -di/dt=20A/μs, V <sub>R</sub> =50V	115		4.0		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			1.0		3.0	V
I <sub>H</sub>	Holding current			20		200	mA
V <sub>GD</sub>	Non-trigger gate voltage	V <sub>DM</sub> = 67%V <sub>DRM</sub>	115	0.2			V
R <sub>th(j-c)</sub>	Thermal resistance Junction to case	Single side cooled per chip				0.070	°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)				12.0		N·m
	Mounting torque(M6)				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				1275		g
Outline	415F3						

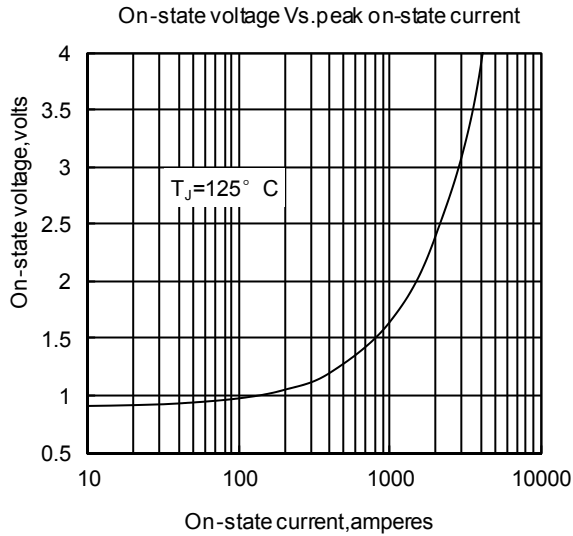


Fig1

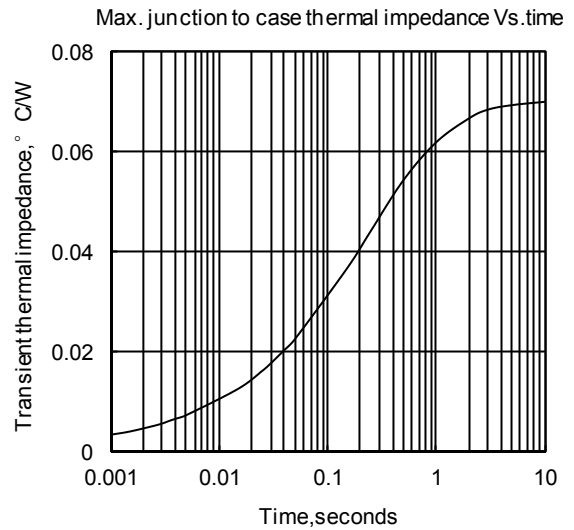


Fig2

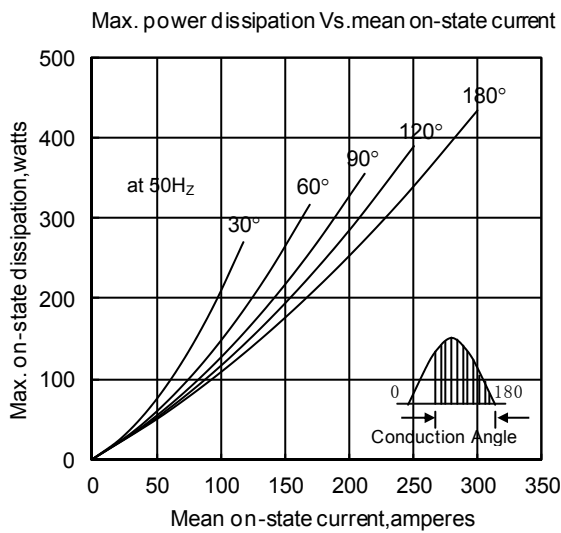


Fig3

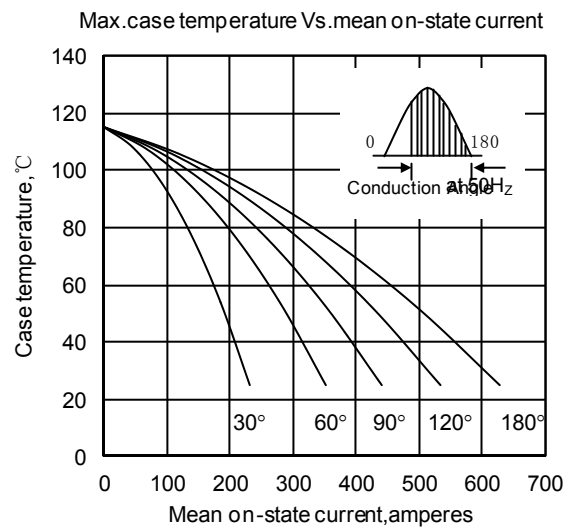


Fig4

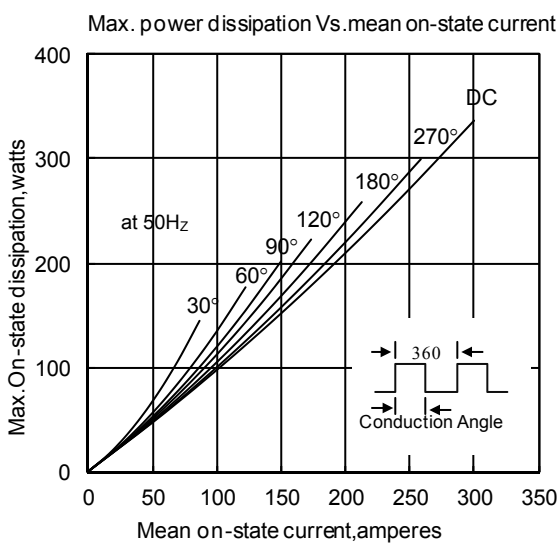


Fig5

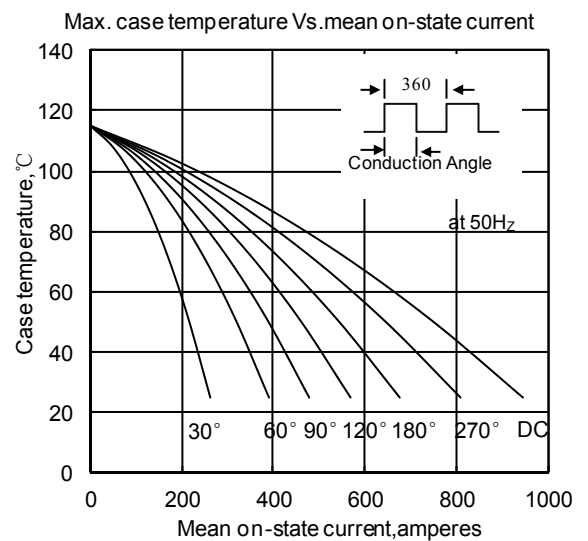


Fig6

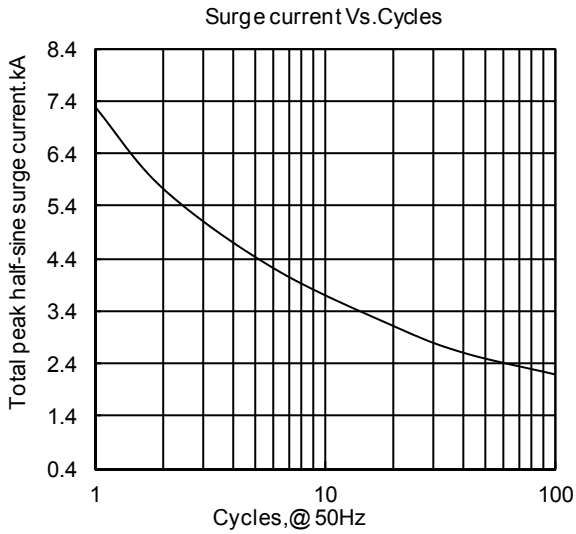


Fig7

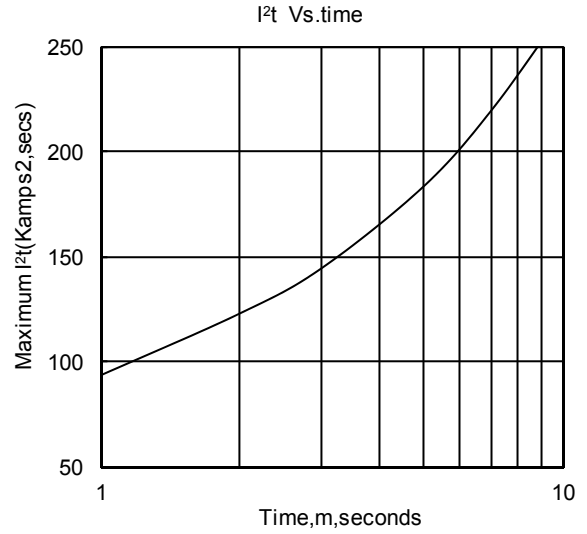


Fig8

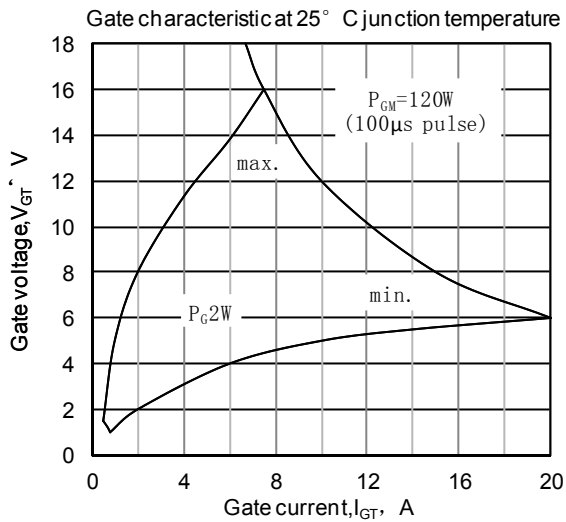


Fig9

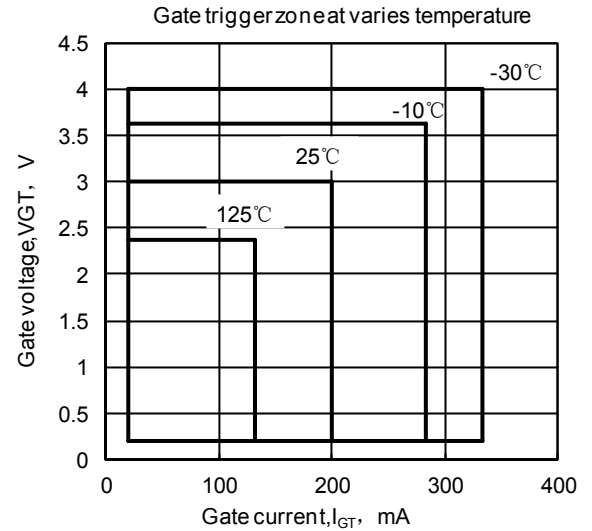


Fig10

Outline:

