

Features

- Electrical isolation between chip and base plate, 2500V AC insulator
- Excellent temperature characteristics and power cycling capability
- Compact size and lightweight

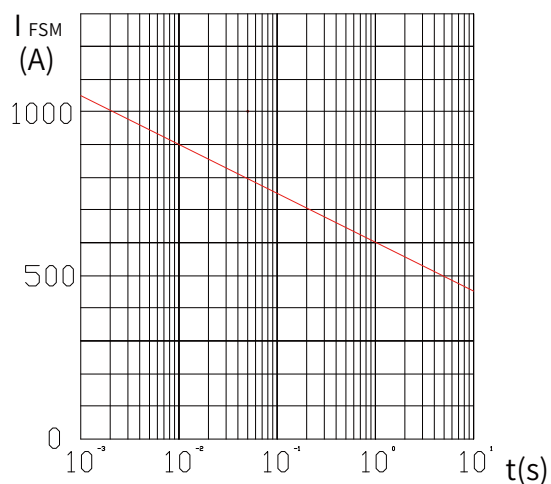
Applications

- AC/DC motor control
- Various rectifier power supplies
- Frequency converters

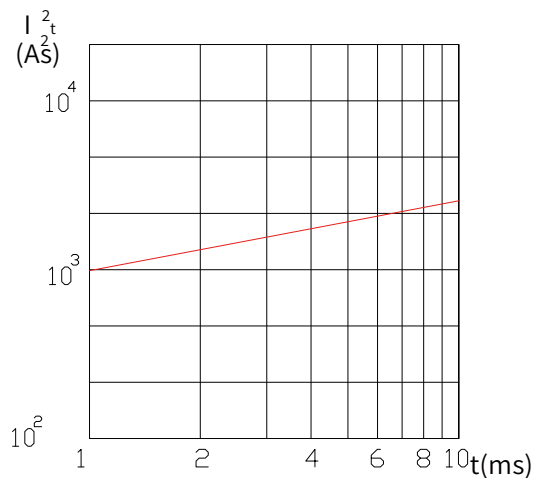


$V_{RSM}(V)$	$V_{RRM}(V)$	Model
1300	1200	MTC55 -12
1700	1600	MTC55 -16
1900	1800	MTC55 -18
2100	2000	MTC55 -20
2500	2400	MTC55 -24

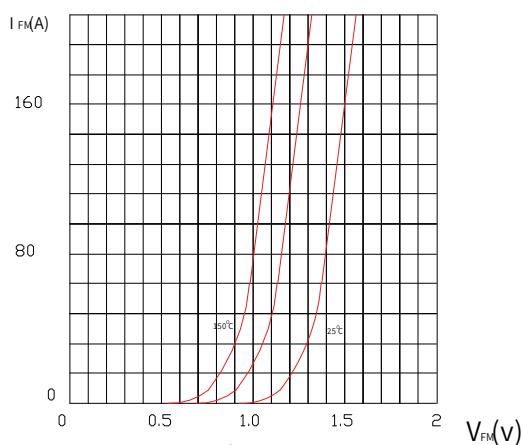
Symbol	Parameter	Test Conditions	$T_j(^{\circ}C)$	Rating			Units
				Min.	Typ.	Max.	
$I_{T(AV)}$	Mean on-state current	180° sine half-wave, 50Hz, single-sided heat dissipation, $T_c=70^{\circ}C$	125			55	A
I_{FSM}	Non-repetitive on-state surge current	10ms, sine half-wave, $V_R=0.6V_{RRM}$	125			0.9	KA
I^2t						4.05	$A^2s \cdot 10^3$
I_{DRM}	Repetitive peak off-state current	At V_{DRM}	125			10	mA
I_{RRM}	Repetitive peak reverse current	At V_{RRM}	125			10	mA
V_{TO}	On-state threshold voltage		125			0.88	V
V_{TM}	Peak on-state voltage	$I_{TM}=165A$	25		1.25	1.5	V
R_T	Slope resistance		125			1.8	mΩ
dv/dt	Critical rate of rise of off-state voltage	$V_{DM}=0.67V_{DRM}$	125			1000	V/μs
di/dt	Critical rate of rise of off-state current	$V_{DM}=0.67V_{DRM}$, Gate pulse $t_r \leq 0.5\mu s$, $I_{GM}=1.5A$	125			200	A/μs
I_{GT}	Gate trigger current	$V_A=12V$, $I_A=1A$	25	20		100	mA
V_{GT}	Gate trigger voltage		25			1.8	V
I_H	Holding current		25	20		150	mA
V_{ISO}	Insulation voltage	AC, 50Hz, R.M.S, 1min		2500			V
$R_{th(j-c)}$	Thermal resistance junction-case	180° sine half-wave, single die				0.60	$^{\circ}C/W$
$R_{th(c-h)}$	Thermal resistance case-heatsink	180° sine half-wave, single module				0.10	$^{\circ}C/W$
Mt	Terminal mounting torque			3		4	N · m
Ms	Baseplate mounting torque			4		6	N · m
T_{stg}	Storage temperature			-40		125	$^{\circ}C$



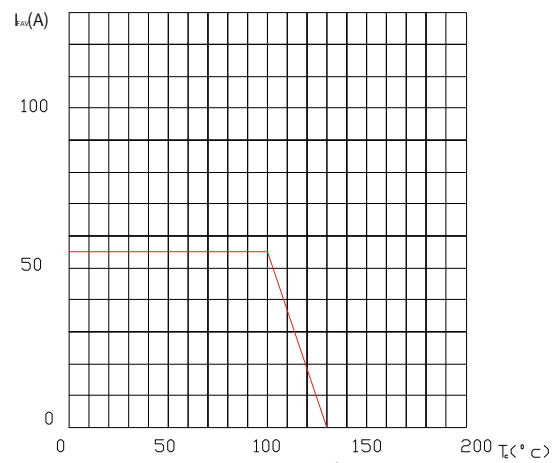
Surge Current Curve



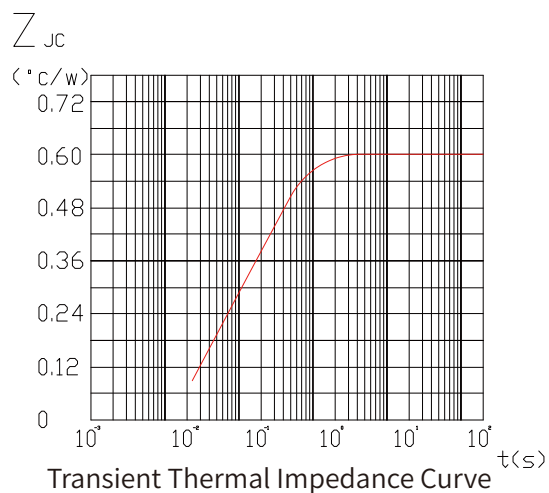
I^2t Curve



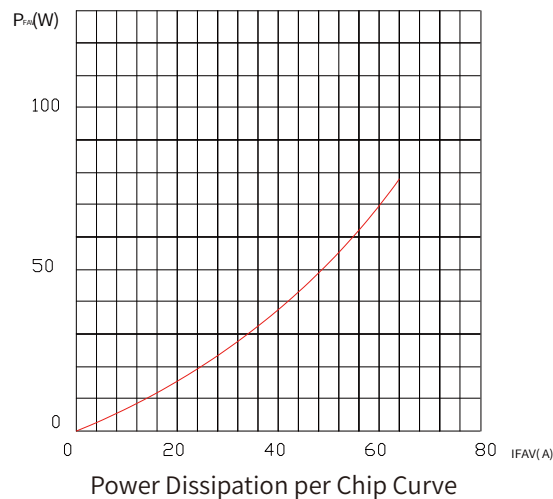
On-state Voltage Drop Curve



Temperature Load Curve



Transient Thermal Impedance Curve



Power Dissipation per Chip Curve

Outline package dimensions

03

