

Applications

- Freewheeling, Snubber, Clamp
- Inversion Welder
- PFC
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- UPS

Features

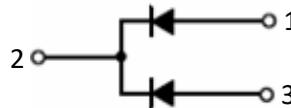
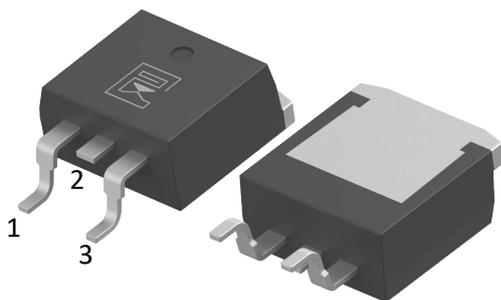
- Ultrafast Recovery Time
- Soft Recovery Characteristics
- Low Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Leakage Current

Product Summary

V_{RRM}	400	V
$I_F@T_C=110^\circ\text{C}$	5x 2	A
$V_{F,TYP}@10A,T_C=25^\circ\text{C}$	1.2	V
$V_{F,TYP}@10A,T_C=125^\circ\text{C}$	1	V
$I_{R,MAX}@T_C=25^\circ\text{C}$	10	uA



TO-263



- 1、ANODE
- 2、CATHODE
- 3、ANODE

Package Marking and Ordering Information

Ordering code	Marking	Package	Packaging	Min. package quantity
ML-M10F40CT	M10F40CT	TO-263	Tube	1000
ML-M10F40CT	M10F40CT	TO-263	Tape & Reel	800

➤➤ Absolute Maximum Ratings (Tc=25°C unless otherwise noted)

Parameter	Test Conditions	Symbol	Ratings	Unit
D.C. Reverse Voltage		V_R	400	V
Repetitive Reverse Voltage		V_{RRM}	400	V
Average Forward Current	$T_C=110^\circ\text{C}$, Per Diode	$I_{F(AV)(\text{per leg})}$	5	A
		$I_{F(AV)(\text{Total})}$	10	
Peak Repetitive Forward Current	$T_C=110^\circ\text{C}$, Per Diode	I_{FM}	10	A
Non-Repetitive Peak Surge Current	$T=45^\circ\text{C}$, 8.3ms	I_{FSM}	75	A
Junction Temperature		T_J	-55 to +150	°C
Storage Temperature		T_{stg}	-55-150	°C

➤➤ Thermal Characteristics

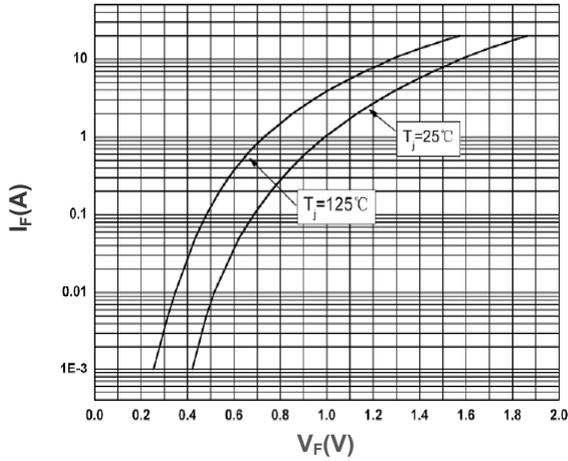
Parameter	Symbol	Package	Max	Unit
Maximum Thermal Resistance	$R_{\theta JC}$	TO-263	2	°C/W

➤➤ Electrical Characteristics (Per Leg) (Tc=25°C unless otherwise noted)

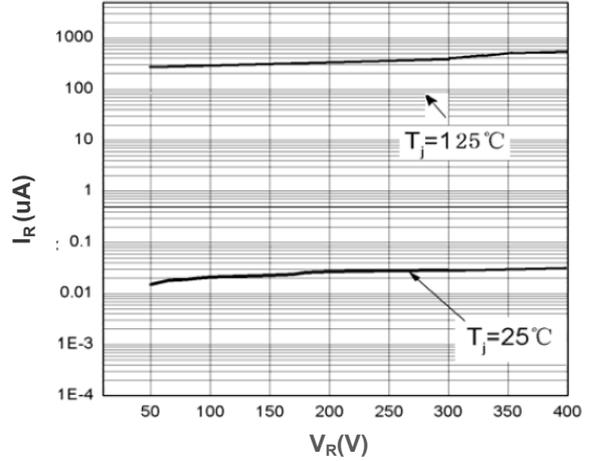
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit	
Forward Voltage	V_F	$I_F=5\text{A}$, $T_J=25^\circ\text{C}$	-	1.2	1.8	V	
		$I_F=5\text{A}$, $T_J=125^\circ\text{C}$	-	1	-	V	
Reverse Leakage Current	I_{RM}	$V_R=400\text{V}$, $T_J=25^\circ\text{C}$	-	-	10	uA	
		$V_R=400\text{V}$, $T_J=125^\circ\text{C}$	-	-	150	uA	
Reverse Recovery Time	t_{rr}	$I_F=1\text{A}$, $V_R=30\text{V}$, $diF/dt=-200\text{A}/\mu\text{s}$	-	25	-	ns	
Reverse Recovery Time	t_{rr}	$I_F=5\text{A}$ $V_R=400\text{V}$ $diF/dt=-200\text{A}/\mu\text{s}$	$T_J=25^\circ\text{C}$	-	50	-	ns
Reverse Recovery Time	t_{rr}		$T_J=125^\circ\text{C}$	-	85	-	ns
Reverse Recovery Charge	Q_{rr}		$T_J=125^\circ\text{C}$	-	180	-	nC
Max. Reverse Recovery Current	I_{RRM}		$T_J=125^\circ\text{C}$	-	5	-	A



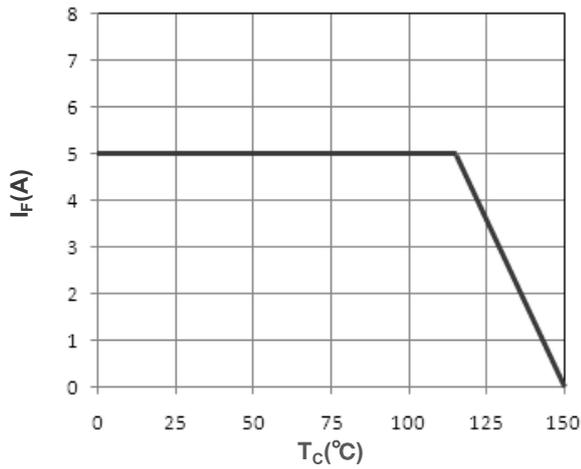
» Characteristics Curves



Forward Characteristics Per Diode



Reverse Characteristics Per Diode



Current Derating Per Diode



TO-263 Package Dimensions

Unit: mm

Symbol	Min	Nom	Max	Symbol	Min	Nom	Max
A	4.42		4.72	e1	2.44	2.54	2.64
B	1.22		1.40	e2	4.98		5.18
b	0.76		0.86	L1	14.70	15.10	15.50
b1	1.22		1.40	L2	2.00	2.30	2.60
b2	0.33		0.43	L3	1.50		2.00
C	1.22		1.35	K	-0.10		0.10
D	9.95		10.25	Y	8.51	8.61	8.71
E	8.99		9.29				

