10A 1200V SiC Schottky Diode

■ Applications

- Switch Mode Power Supply
- Power Factor Correction
- Solar Inverter
- Uninterruptible Power Supply

■ Product Summary

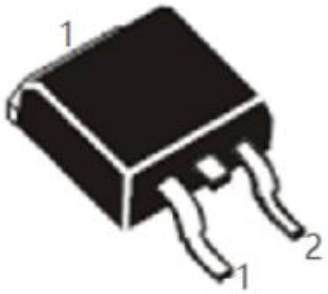
V_{RRM}	1200	V
I_F@Tc=160℃	10	A
$V_{F\ ,TYP}$@Tc=25℃	1.41	V
$V_{F\ ,TYP}$@Tc=175℃	2.0	V
Qc	52	nC

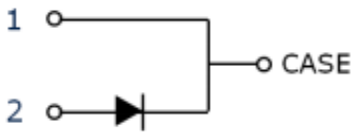
■ Features

- No Reverse Recovery/ No Forward Recovery
- Temperature Independent Switching Behavior
- Positive Temperature Coefficient on V_F
- Fast Reverse Recovery
- High Surge Current Capability
- 100% UIS and RG Tested

■ Benefits

- Higher System Efficiency
- System Cost and Size Savings
- High Frequency Operation
- Higher System Reliability
- Reduced EMI





Cathde ： 1

Anode ： 2

TO-263

Marking	Package	Packaging	Min. package quantity
ML3S10C120	TO-263	Tube	1000
ML3S10C120	TO-263	Tape & Reel	800

■ Absolute Maximum Ratings（Tc=25℃ unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	1200	V
Surge Peak Reverse Voltage	V_{RSM}	1200	V
DC Peak Blocking Voltage	V_R	1200	V
Continuous Forward Current Tc=160℃	I_F	10	A
Non-Repetitive Peak Forward Surge Current	I_{FSM}	64	A
Power Dissipation	P_D	100	W
Junction Temperature	T_j	175	℃
Storage Temperature	T_{stg}	-55-175	℃

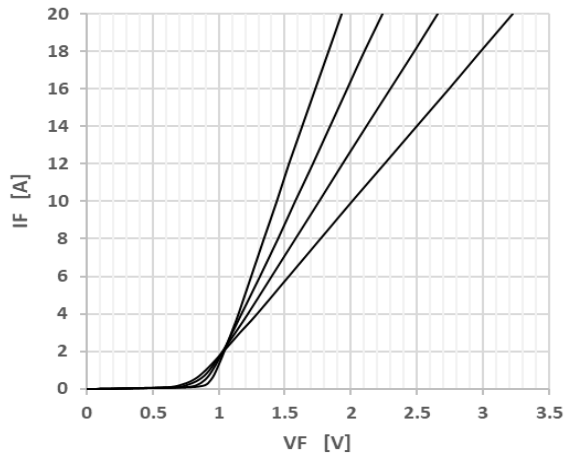
■ Thermal Characteristics

Parameter	Symbol	Max	Unit
Maximum Junction-to-Case	$R_{\theta JC}$	1.5	℃/W
Maximum Junction-to-Ambient	$R_{\theta JA}$	60	℃/W

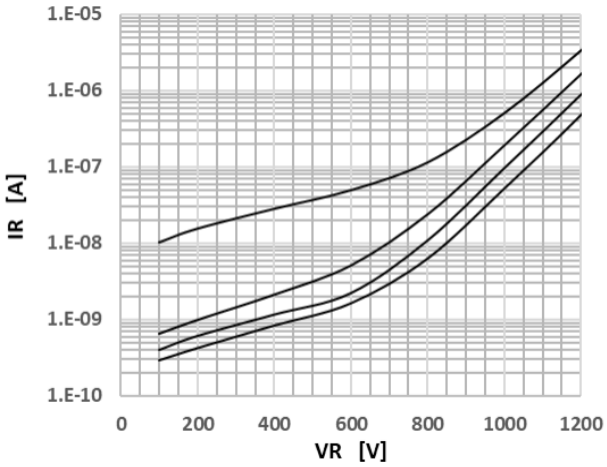
■ Electrical Characteristics（Tc=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static Parameters						
DC Blocking Voltage	V_{DC}	I_R=100uA	1200	-	-	V
Forward Voltage	V_F	I_F=10A	-	1.41	1.7	V
		I_F=10A，T_J=175℃	-	2		V
Reverse Current	I_R	V_R=1200V	-	0.5	20	uA
		V_R=1200V，T_J=175℃	-	4	100	uA
AC Parameters						
Total Capacitive Charge	Q_C	I_F= 10A, dI/dt=400A/μs, V_R=400V, T_J=25℃	-	52	-	nC
Total Capacitive	C	V_R=1V, f=1MHz	-	545	-	pF
		V_R=400V, f=1MHz	-	45	-	
		V_R=800V, f=1MHz	-	40	-	

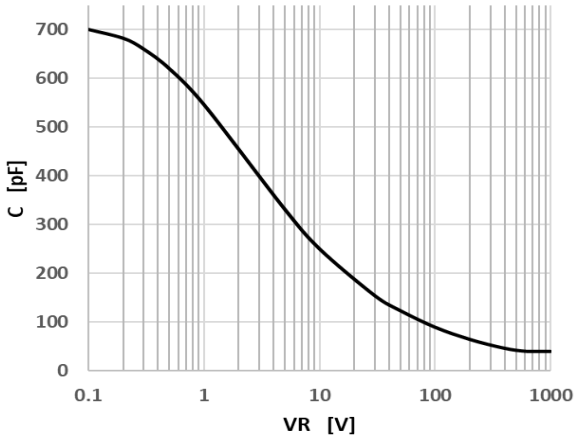
■ Characteristics Curves



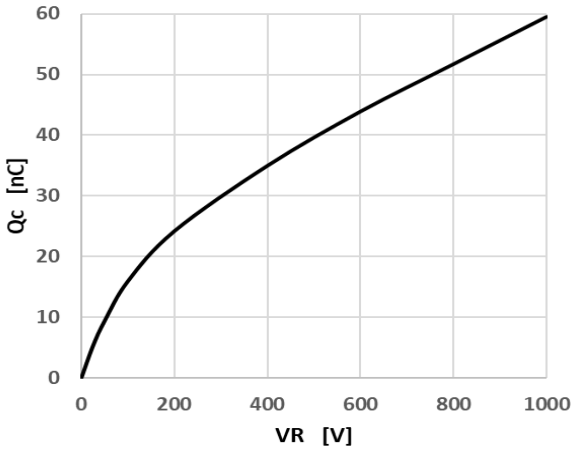
Forward Characteristics



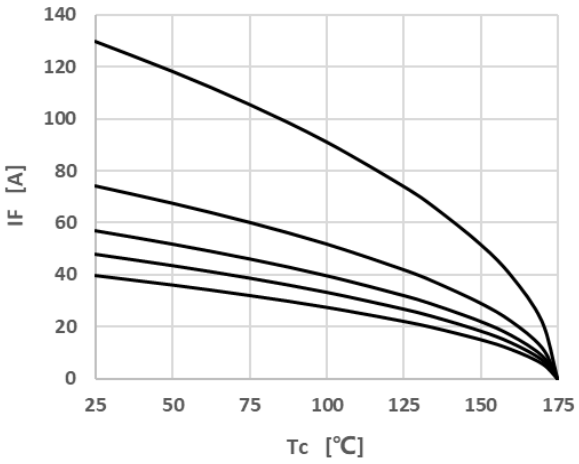
Reverse Characteristics



Capacitance



Recovery Charge vs. Reverse Voltage



Current Derating

■ 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		1.4	e2	4.98		5.18
b	0.76		0.86	L1	14.7	15.1	15.5
b1	1.22		1.4	L2	2	2.3	2.6
b2	0.33		0.43	L3	1.5		2
C	1.22		1.35	K	-0.1		0.1
D	9.95		10.25	Y	8.51	8.61	8.71
E	8.99		9.29