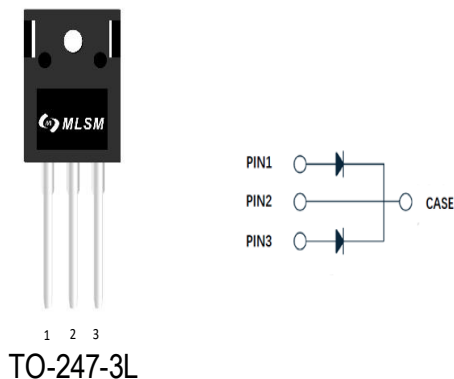


Features

- Zero Forward Recovery Voltage
- Zero Reverse Recovery Current
- Excellent Surge Current Capability
- Temperature Independent Switching
- Positive Temperature Coefficient on VF
- High Frequency Operation



Application

- Parallel Devices Without Thermal Runaway
- Power Factor Correction
- DC-AC Inverters
- DC-DC Inverters



Maximum Ratings(Ta=25°C unless otherwise noted)

Symbol	Parameter	Test condition	Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltages	$T_C=25^{\circ}C$	1200	V
$*I_F$	Forward Current	$T_C=25^{\circ}C$	40	A
$**I_F$		$T_C=25^{\circ}C$	80	
$*I_{FSM}$	Non-Repetitive Forward Surge Current (Half Sine Pulse)	$T_C=25^{\circ}C, t_p=10ms$	300	A
$*P_{tot}$	Power Dissipation for $R_{th(j-c, max)}$	$T_C=25^{\circ}C, T_j=175^{\circ}C$	395	W
T_J, T_{stg}	Operating Junction and Storage Temperature		-55~+175	°C

Note: * per leg, ** per device

Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
DA80C12A	TO-247-3L	DA80C12A	/	/	/	/

Symbol	Parameter	Value	Unit
$R_{\theta JC}$	Thermal Resistance from Junction to Case	0.19	°C/W

Electrical Characteristics($T_{vj}=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
V_{DC}	DC Blocking Voltage	$I_R=500\mu\text{A}$	1200	-	-	V
V_F	Forward Voltage	$I_F=40\text{A}, T_J=25^{\circ}\text{C}$	-	1.45	1.61	V
		$I_F=40\text{A}, T_J=175^{\circ}\text{C}$	-	1.88	-	
I_R	Reverse Current	$V_R=1200\text{V}, T_J=25^{\circ}\text{C}$	-	-	75	μA
		$V_R=1200\text{V}, T_J=175^{\circ}\text{C}$	-	-	250	
C	Total Capacitance	$V_R=1\text{V}, f=1\text{MHz}$	-	3350	-	pF
		$V_R=400\text{V}, f=1\text{MHz}$	-	160	-	
		$V_R=800\text{V}, f=1\text{MHz}$	-	118	-	
Q_C	Total Capacitive Charge	$V_R=1000\text{V}$	-	205	-	nC

Typical Operating Characteristics

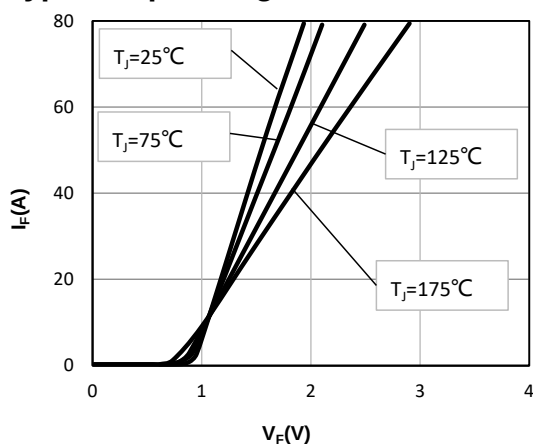


Fig1. Forward Characteristics

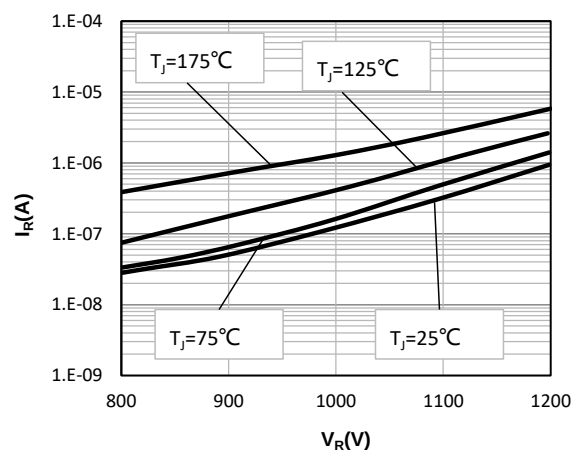


Fig2. Reverse Characteristics

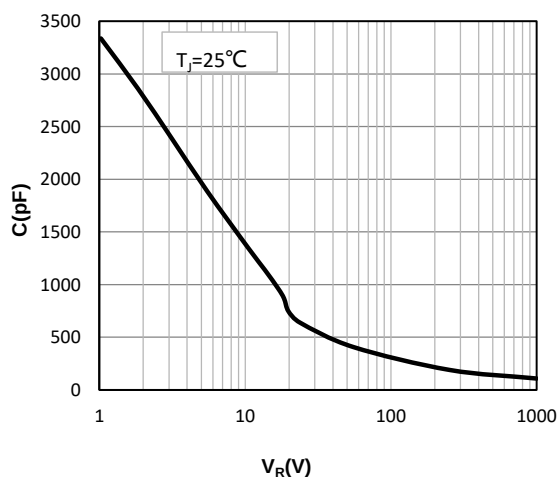


Fig3. Capacitance vs. Reverse Voltage

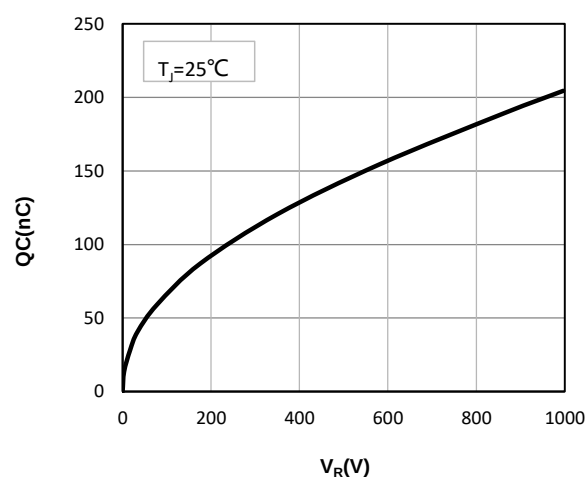
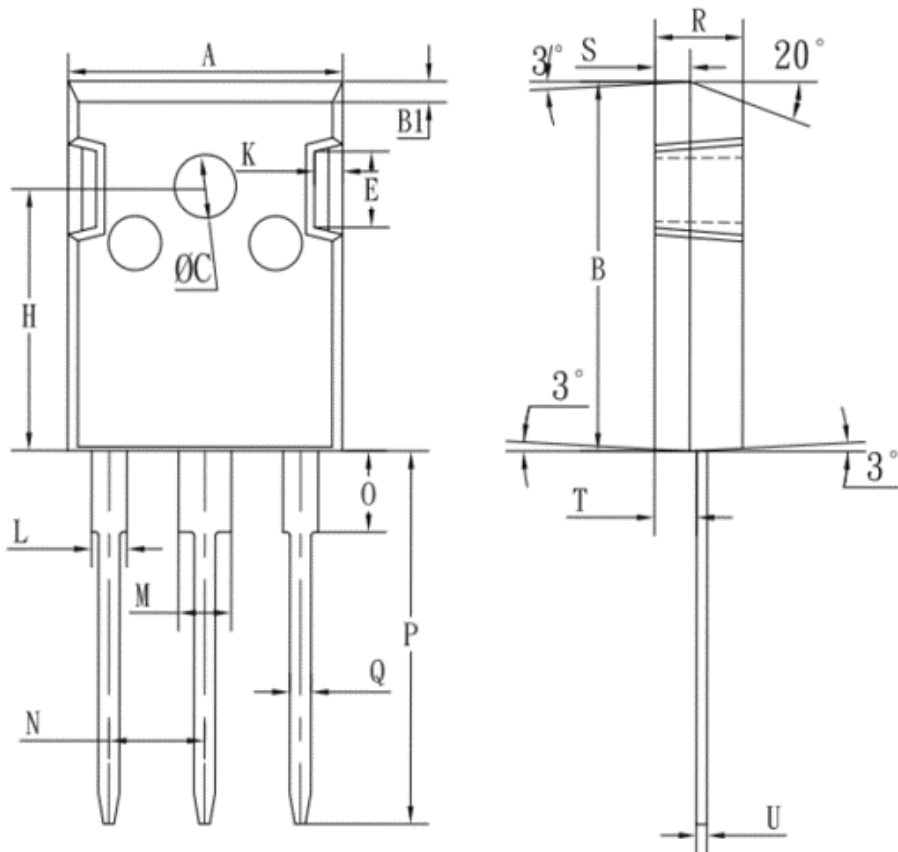


Fig3. Recovery Charge vs. Reverse Voltage

TO-247-3L Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	15.510	15.710	0.613	0.621
B	20.420	20.520	0.808	0.811
B1	0.890	1.120	0.035	0.044
C	3.620	4.590	0.143	0.182
E	4.500	5.050	0.178	0.200
H	14.220	14.560	0.562	0.576
K	1.500	1.680	0.059	0.066
L	2.050	2.150	0.081	0.085
M	2.950	3.100	0.117	0.123
N	5.410	5.460	0.214	0.216
O	4.250	4.400	0.167	0.173
P	20.510	20.760	0.811	0.821
Q	1.170	1.230	0.046	0.049
R	4.950	5.050	0.196	0.200
Symbol	1.980	2.040	0.078	0.081
T	2.350	2.410	0.093	0.095
U	0.600	0.660	0.024	0.026