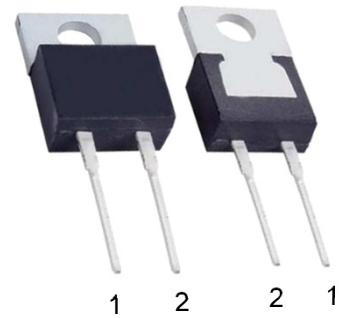
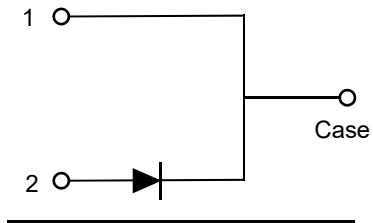


Feature

- Negligible reverse recovery
- Positive Temperature Coefficient
- Temperature-Independent Switching
- Fast switching
- Pb-free / RoHS compliant
- Low switching loss
- Higher frequency
- Low heat dissipation requirements
- Reduce size and cost of the system
- High-reliability


TO-220-2L
Applications

- Solar inverters
- Uninterruptable power supplies
- Motor drives
- Power Factor Correction


Circuit Diagram
Absolute maximum rating@25°C

Parameter		Symbol	Value	Units
Repetitive Peak Reverse Voltage		V_{RRM}	650	V
Surge Peak Reverse Voltage		V_{RSM}	650	V
DC Peak Reverse Voltage		V_R	650	V
Continuous Forward Current	$T_c=25^\circ\text{C}$	I_F	34	A
	$T_c=135^\circ\text{C}$		17	
	$T_c=158^\circ\text{C}$		10	
Non-repetitive Forward Surge Current	$T_c=25^\circ\text{C}, t_p=10\text{ms}, \text{Half Sine Pulse}$	I_{FSM}	80	A
	$T_c=110^\circ\text{C}, t_p=10\text{ms}, \text{Half Sine Pulse}$		70	
Repetitive Peak Forward Surge Current	$T_c=25^\circ\text{C}, t_p=10\text{ms}, \text{Half Sine Pulse}$	I_{FRM}	45	A
	$T_c=110^\circ\text{C}, t_p=10\text{ms}, \text{Half Sine Pulse}$		27	
i^2t Value	$T_c=25^\circ\text{C}, t_p=10\text{ms}$	$\int i^2 dt$	31.7	A^2s
	$T_c=110^\circ\text{C}, t_p=10\text{ms}$		24.3	
Power Dissipation	$T_c=25^\circ\text{C}$	P_{tot}	93	W
	$T_c=110^\circ\text{C}$		40	
Operating Junction Range		T_J	-55~+175	$^\circ\text{C}$
Storage Temperature Range		T_{STG}	-55~+150	$^\circ\text{C}$

Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Forward Voltage	V_F	$I_F = 10A, T_J=25^\circ C$	-	1.3	1.5	V
		$I_F = 10A, T_J=175^\circ C$	-	1.5	-	
Reverse Current	I_R	$V_R = 650V, T_J=25^\circ C$	-	-	50	μA
		$V_R = 650V, T_J=175^\circ C$	-	-	200	
Total Capacitive Charge	Q_C	$V_R = 400V$	-	27	-	nC
Total Capacitance	C	$V_R = 0V, f = 1MHz$	-	561	-	pF
		$V_R = 200V, f = 1MHz$	-	55	-	
		$V_R = 400V, f = 1MHz$	-	43	-	

Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Units
Thermal Resistance (Junction to case)	$R_{\theta JC}$	-	1.60	-	$^\circ C/W$

Typical Characteristics

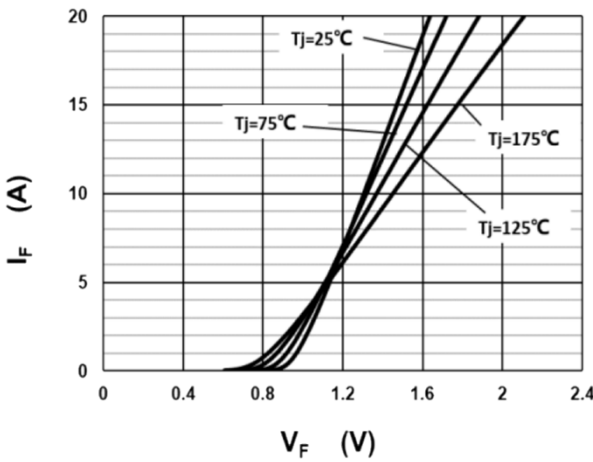


Fig.1 Forward Characteristics

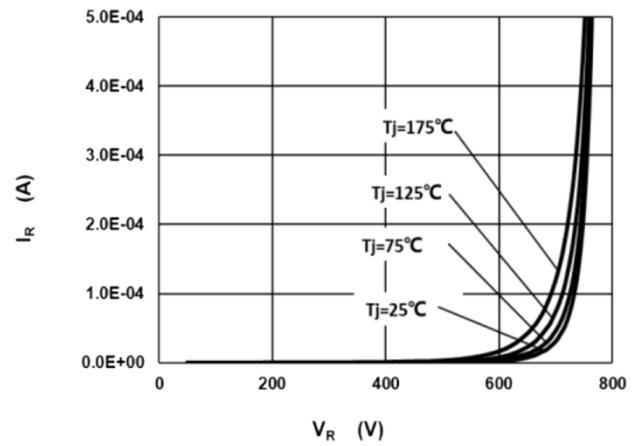


Fig.2 Reverse Characteristics

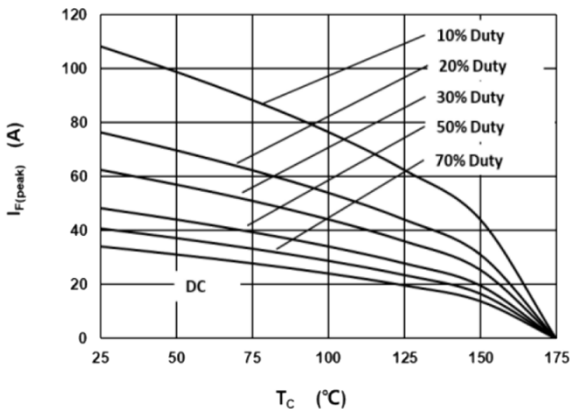


Fig.3 Current Derating

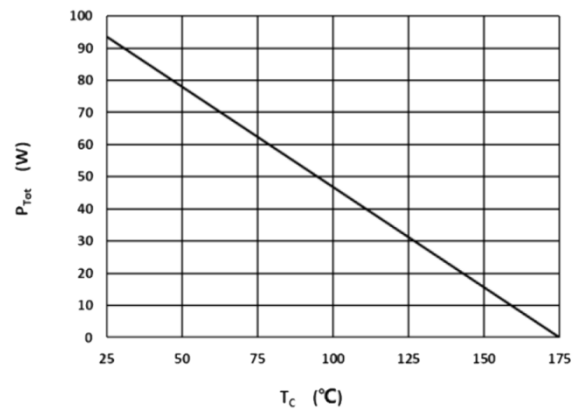


Fig.4 Power Derating

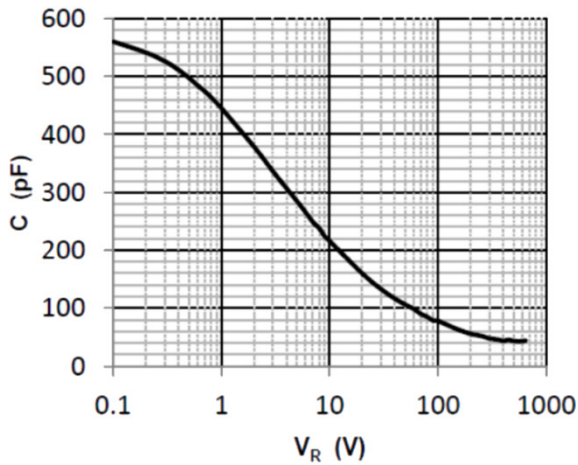


Fig.5 Capacitance vs. Reverse Voltage

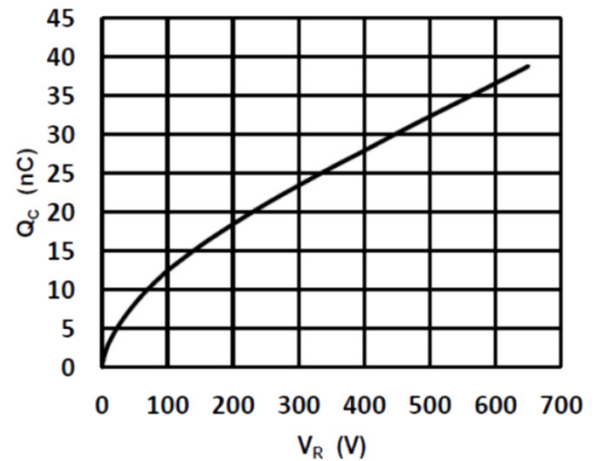


Fig.6 Capacitance Charge vs. Reverse Voltage

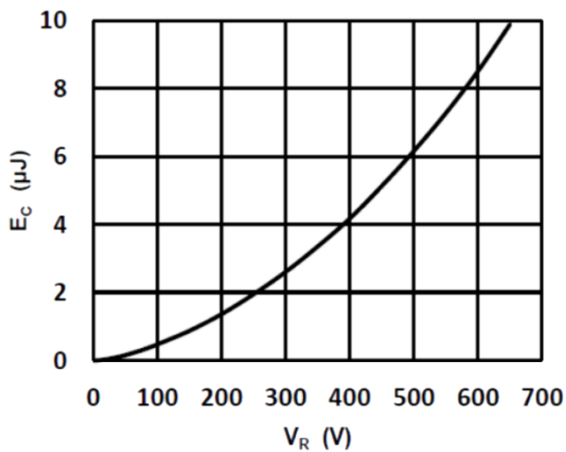


Fig.7 Capacitance Stored Energy

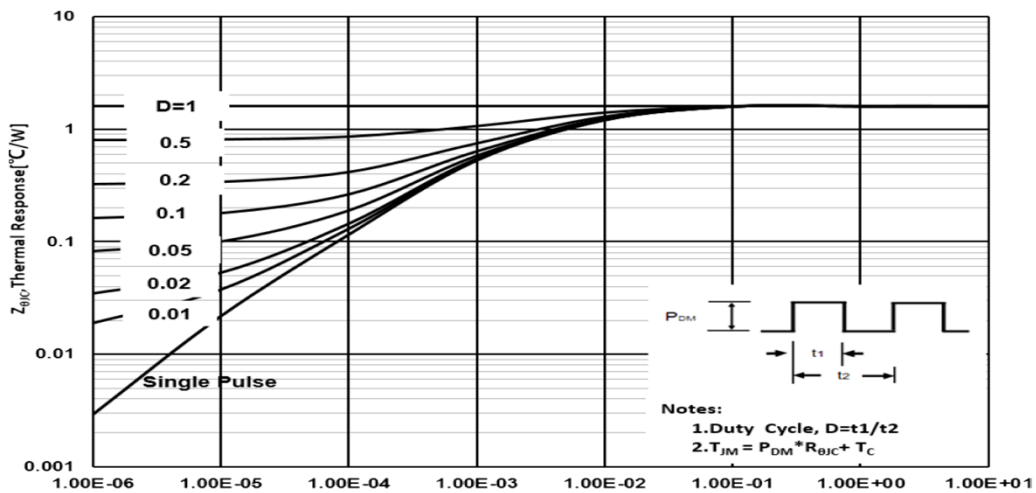
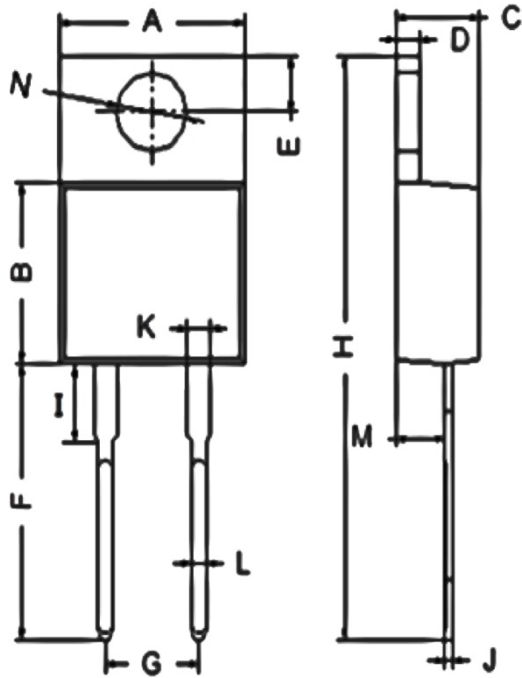



Fig.8 Transient Thermal Impedance

Product dimension (TO-220-2L)



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	9.80	10.30	0.386	0.406
B	8.60	9.20	0.339	0.362
C	4.37	4.77	0.172	0.188
D	1.07	1.47	0.042	0.058
E	2.64	2.84	0.104	0.112
F	13.14	14.20	0.517	0.559
G	4.98	5.18	0.196	0.204
H	28.03	29.06	1.104	1.144
I	3.50	4.00	0.138	0.157
J	0.28	0.48	0.011	0.019
K	1.22	1.32	0.048	0.052
L	0.71	0.91	0.028	0.036
M	2.40	2.90	0.094	0.114
N	3.76	3.96	0.148	0.156


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