

Main Product Characteristics

$I_{F(AV)}$	3.5A, $T_c=135^{\circ}\text{C}$	2A, $T_c=164^{\circ}\text{C}$
V_{RRM}	600V	
T_J	175 $^{\circ}\text{C}$	
$V_{F(Typ)}$	1.5V	

■ Features

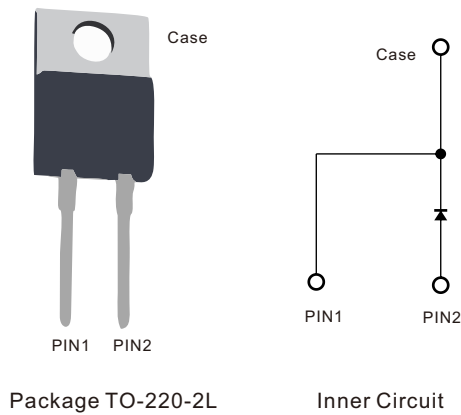
- Low Conduction and Switching Loss
- Positive Temperature Coefficient on V_F
- Temperature Independent Switching Behavior
- Fast Reverse Recovery
- High Surge Current Capability
- Pb-free lead plating

■ Benefits

- Higher System Efficiency
- Parallel Device Convenience
- High Temperature Application
- High Frequency Operation
- Hard Switching & High Reliability
- Environmental Protection

■ Maximum ratings and electrical characteristics

■ Outline



■ Applications

- SMPS
- PFC
- Solar/Wind Renewable Energy
- Power Inverters
- Motor Drives

Parameter	Conditions	Symbol	SIC02C60			UNIT
Marking code			SIC02C60			
Peak Repetitive Reverse Voltage	T _J =25°C	V _{RRM}	600			V
Peak Reverse Surge Voltage	T _J =25°C	V _{RSM}	600			
DC Blocking Voltage	T _J =25°C	V _R	600			
Continuous Forward Current	T _c =25°C	I _F	7			A
	T _c =135°C		3.5			
	T _c =164°C		2			
Non-Repetitive Peak Forward surge current	T _c =25°C, T _p =10ms, Half Sine-Wave	I _{FSM}	17			A
	T _c =125°C, T _p =10ms, Half Sine-Wave		15			
	T _c =25°C, T _p =10us, Pulse		86			
Repetitive Peak Forward surge current	T _c =25°C, T _p =10ms, Half Sine-Wave, D=0.1	I _{FRM}	16			A
	T _c =125°C, T _p =10ms, Half Sine-Wave, D=0.1		14			
Power Dissipation	T _c =25°C	P _D	48			W
	T _c =125°C		16			
Operation Junction and Storage Temperature		T _J	175			°C
		T _{stg}	-55 to 175			
Thermal Resistance Junction to Case		R _{θJC}	3.1			°C/W
Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
DC Blocking Voltage	I _R =100uA, T _J =25°C	V _{DC}		>650		V
Forward Voltage	I _F =2A, T _J =25°C	V _F		1.5	1.8	V
	I _F =2A, T _J =175°C			1.9	2.2	
Reverse Current	V _R =600V, T _J =25°C	I _R		<1	30	uA
	V _R =600V, T _J =125°C			2	80	
Total Capacitive Charge	I _F =2A, dI/dt=300A/us, V _R =400V, T _J =25°C	Q _C		7		nC
Total Capacitive	V _R =1V, T _J =25°C, f=1MHz	C		85		pF
	V _R =200V, T _J =25°C, f=1MHz			15		
	V _p =400V, T _i =25°C, f=1MHz			15		

■ Rating and characteristic curves

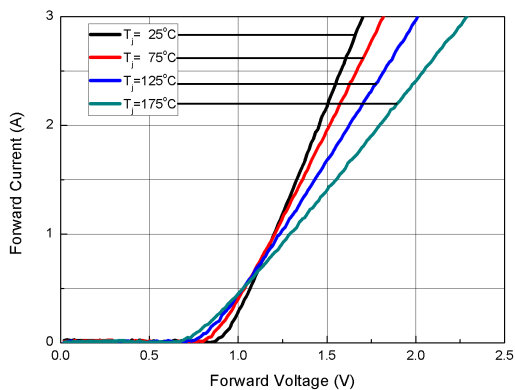


Fig. 1 Forward Characteristics

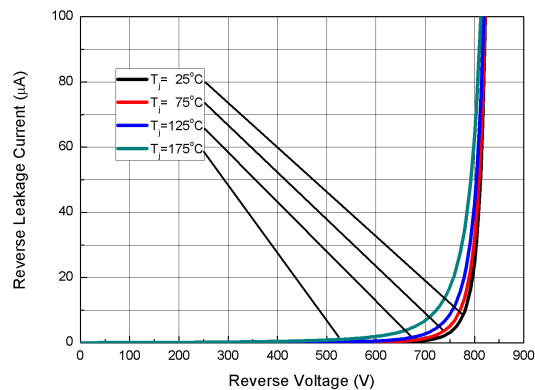


Fig. 2 Reverse Characteristics

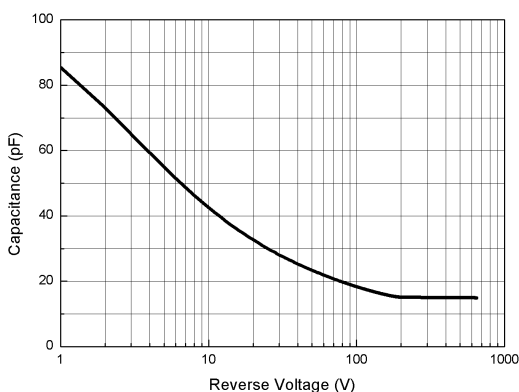


Fig. 3 Capacitance vs. Reverse Voltage

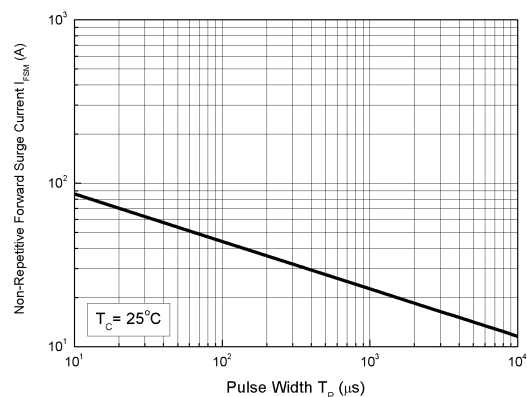


Fig. 4 Non Repetitive Peak Forward Surge Current (Pulse Mode)

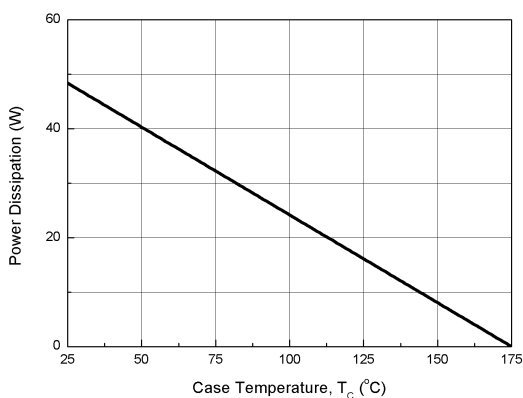


Fig. 5 Power Derating

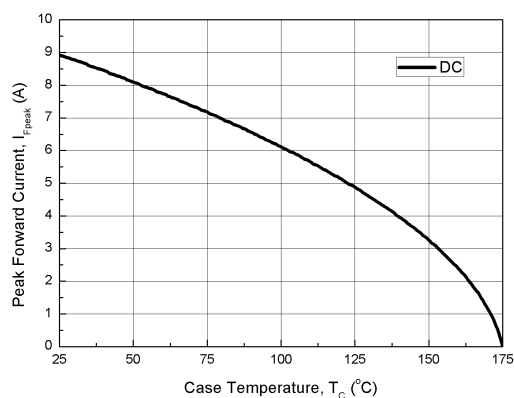
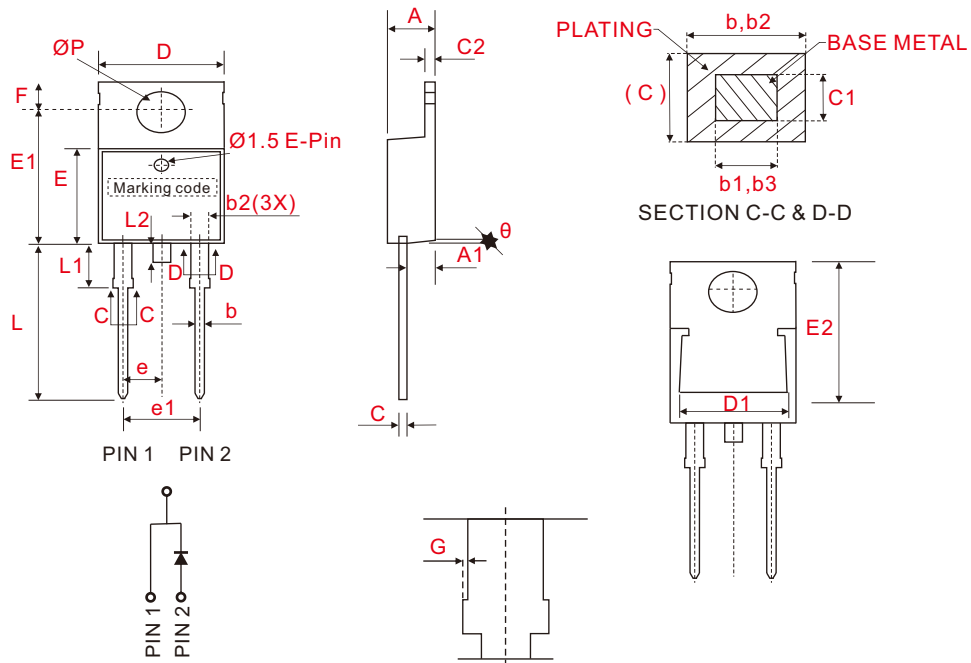


Fig. 6 Current Derating

■ Outline

TO-220-2L

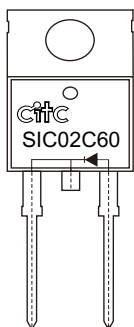


symbol	Dimensions in inches(millimeters)		
	Min	Nom	Max
A	0.176(4.470)	—	0.184(4.670)
A1	0.099(2.520)	—	0.111(2.820)
b	0.028(0.710)	0.032(0.813)	0.036(0.910)
b1	0.028(0.710)	—	0.036(0.910)
b2	0.046(1.170)	0.050(1.270)	0.054(1.370)
b3	0.046(1.170)	—	0.054(1.370)
c	0.011(0.279)	0.015(0.381)	0.019(0.483)
c1	0.011(0.279)	—	0.017(0.432)
c2	0.046(1.170)	0.050(1.270)	0.054(1.370)
D	0.394(10.010)	—	0.406(10.310)
D1	0.299(7.595)	—	0.324(8.230)
E	0.345(8.763)	0.350(8.890)	0.355(9.017)
E1	0.484(12.294)	0.490(12.446)	0.494(12.548)
E2	0.469(11.913)	—	0.494(12.548)
e	—	0.1(2.54)	—
e1	0.196(4.980)	—	0.204(5.180)
F	0.104(2.642)	0.108(2.743)	0.116(2.946)
G	0.000(0.000)	—	0.005(0.127)
L	0.539(13.7)	—	0.555(14.10)
L1	0.157(3.98)	0.162(4.11)	0.167(4.23)
L2	—	—	0.063(1.60)
$\varnothing P$	148(3.77)	—	0.153(3.890)
θ	1°	—	5°

NOTES:

1. All dimension are in mm[inch].
2. Tolerance: ± 0.004 inch.

■ Marking information



SIC02C60 : Product type marking code

 : CITC Logo

■ Ordering/Packing information

Part number		Case	Q'TY/Tube(PCS)	Q'TY/Box (PCS)	Q'TY/Carton(PCS)
Halogen free	SIC02C60	TO-220-2L	50	1000	5,000

Notes : 1. Halogen-Free product.

2. Halogen-Free defined follow IEC61249-2-21

3 For packaging details, please reference our website at <http://www.citcorp.com.tw/tchinese/products/index.php>

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