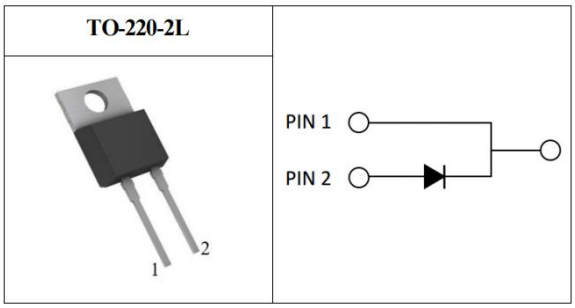
SSC2065A-T

Silicon Carbide Schottky Diode

Features

- Zero Reverse Recovery Current
- High-Frequency Operation
- Temperature-Independent Switching Behavior
- Humidity Resistant



Applications

- Boost diodes in PFC or DC/DC stages
- Free Wheeling Diodes in Inverter stages
- AC/DC converters
- PV Inverters

Key Performance Parameters		
Parameter	**Value**	**Unit**
V_{DSS}	650	V
I_F (150°C)	20	A
Q_C	65	nC

Ordering Information

Ordering Code	RoHS Status	Package	Package Code	Packing
SSC2065A-T	Halogen-Free	TO-220-2L	2065	Tube

Maximum Ratings

T_C=25°C,unless otherwise noted.

Parameter	Symbol	Condition	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	T_C=25°C	650	V
Surge Peak Reverse Voltage	V_{RSM}	T_C=25°C	650	V
DC Blocking Voltage	V_{DC}	T_C=25°C	650	V
Continuous Forward Current	I_F	T_C=150°C	20	A
Repetitive Peak Forward Surge Current	I_{FRM}	T_C=25°C, tp = 10ms, Half Sine Wave	140	A
Non-Repetitive Peak Forward Surge Current	I_{FSM}	T_C=25°C, tp = 10ms, Half Sine Wave	160	A
Non-Repetitive Peak Forward Surge Current	$I_{F,Max}$	T_C=25°C, tp = 10ms, Pulse	1360	A
Power Dissipation	P_{tot}	T_C=25°C	300	W
Operating Junction and Storage Temperature	T_J,T_{STG}	T_C=25°C	-55~175	°C

Thermal Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$		0.50		°C/W

Electrical Characteristics

T_J=25°C,unless otherwise noted.

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Forward Voltage	V_F	I_F=20A, T_J=25°C		1.4	1.8	V
		I_F=20A, T_J=175°C		1.7	2.4	V
Reverse Current	I_R	V_R=650V, T_J=25°C		1	20	uA
		V_R=650V, T_J=175°C		20	200	uA
Total Capacitive Charge	Q_C	V_R = 400V, T_J = 25˚C $Q_C = \int_0^{VR} C(V)dV$		65		nC
Total Capacitance	C	V_R = 0V, T_J = 25˚C, f = 1MHz		1340		uJ
		V_R = 200V, T_J = 25˚C, f = 1MHz		120		uJ
		V_R = 400V, T_J = 25˚C, f = 1MHz		109		uJ
Total Capacitance	E_C	V_R = 400V		16		uJ

Typical Operating Characteristics

TYP. Forward Characteristic

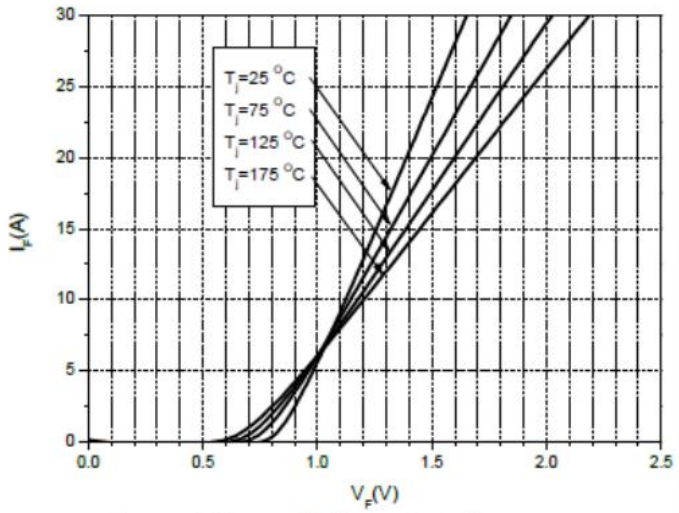


Figure 1.Forward Characteristics

TYP. Reverse Characteristics

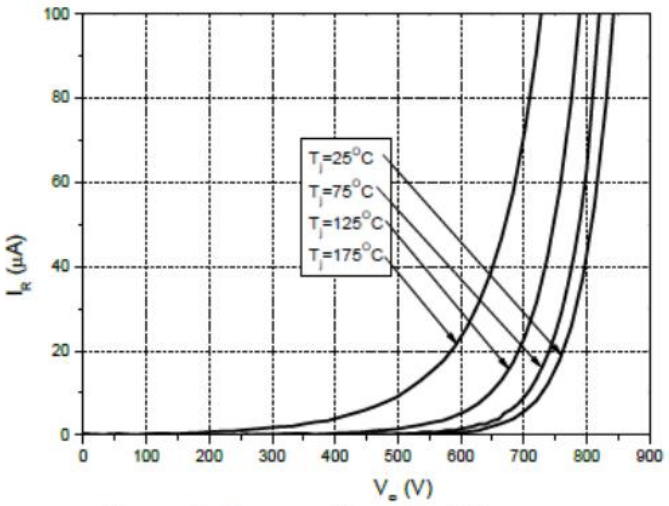


Figure 2. Reverse Characteristics

TYP. Capacitance vs. Reverse Voltage

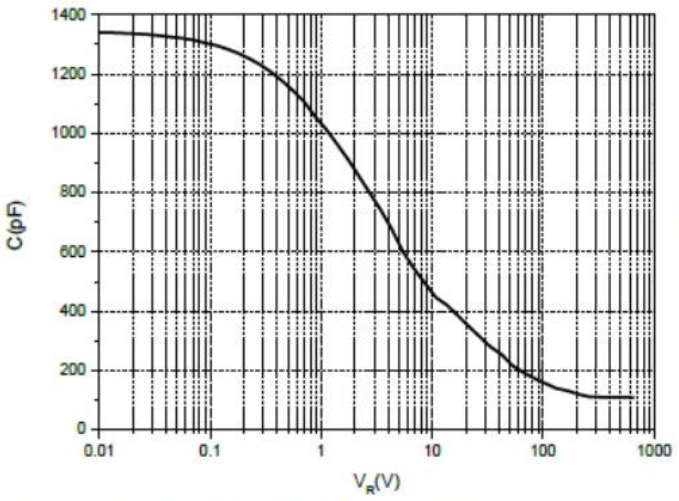


Figure 3.Capacitance vs. Reverse Voltage

TYP. Total Capacitance Charge vs. Reverse Voltage

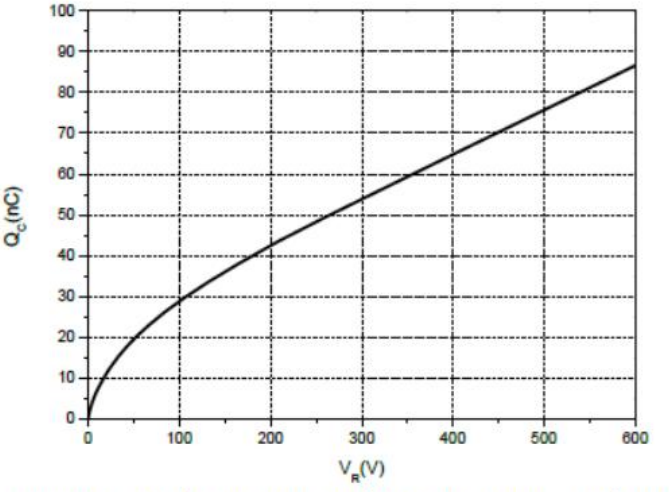


Figure 4. Total Capacitance Charge vs. Reverse Voltage

TYP. Capacitance Stored Energy

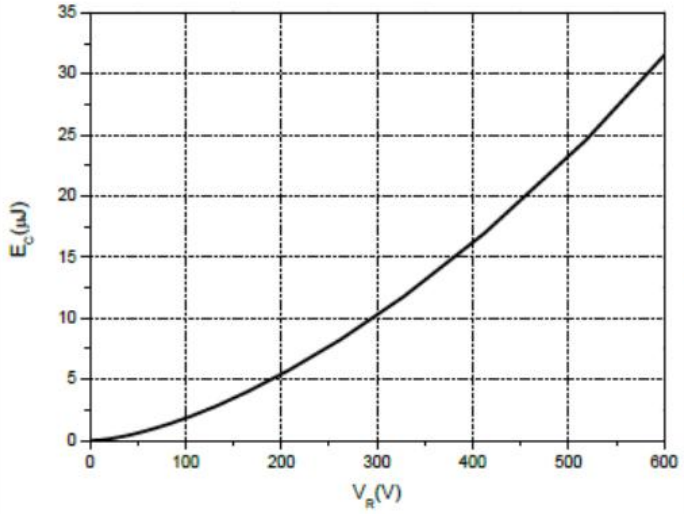


Figure 5. Capacitance Stored Energy

TYP. Power Derating

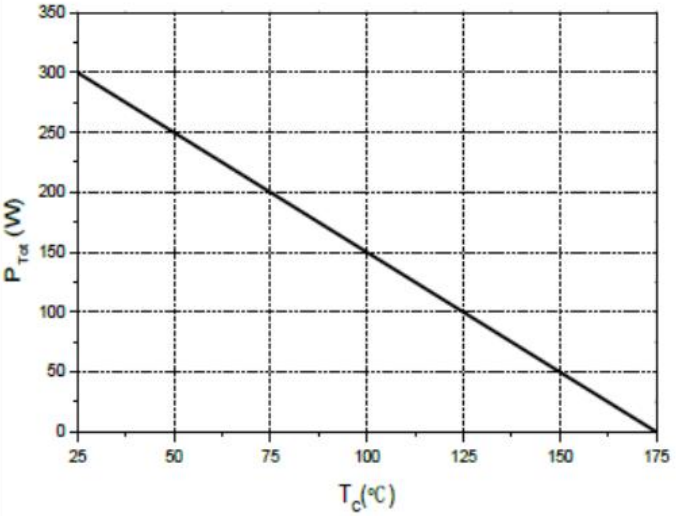


Figure 6. Power Derating

TYP. Current Derating

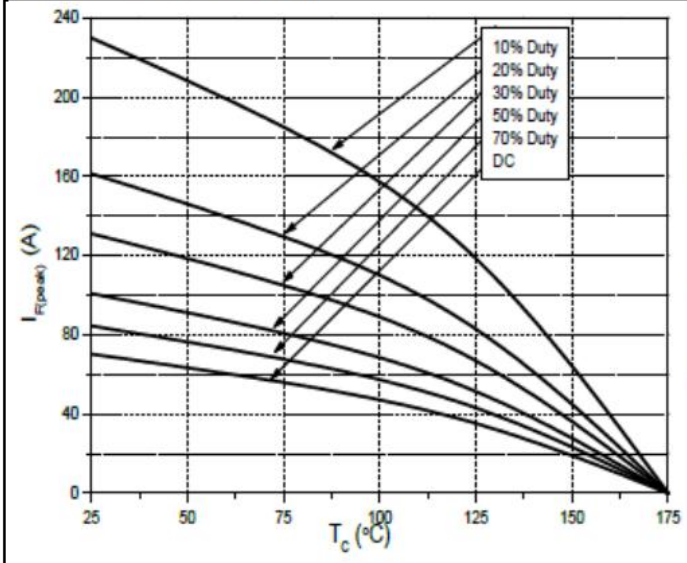


Figure 7. Current Derating

TYP. Transient Thermal Impendance

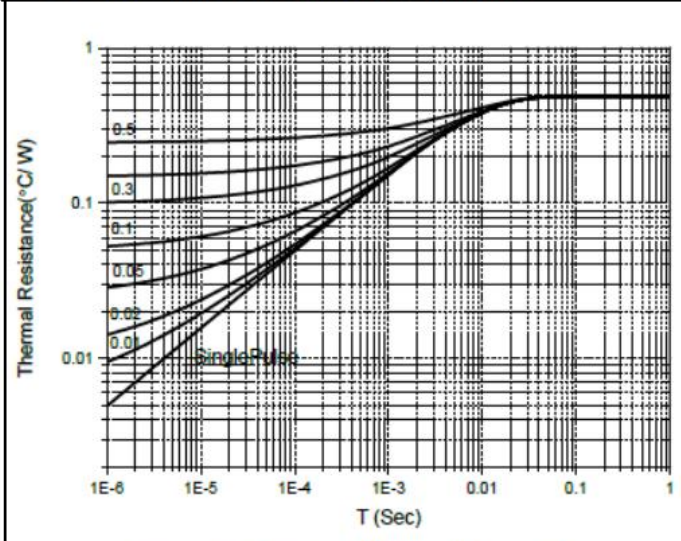
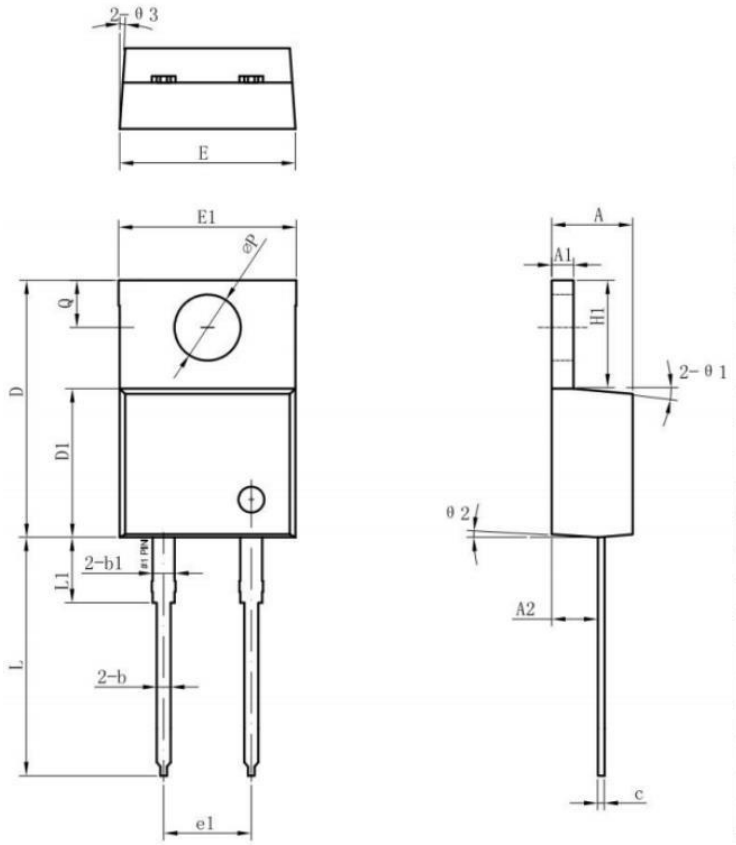


Figure 8. Transient Thermal Impendance

Package Information

TO-220-2L

Dimensions in mm



符号	机械尺寸/mm		
	最小值	典型值	最大值
A	4.55	4.70	4.85
A1	1.17	1.27	1.37
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
D	14.64	14.94	15.24
D1	8.55	8.70	8.85
E	10.01	10.16	10.31
E1	9.98	10.18	10.38
e1		5.08	
H1	6.04	6.24	6.44
L	13.00	13.86	14.08
L1		3.80	
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
θ1		5°	
θ2		4°	
θ3		4°	