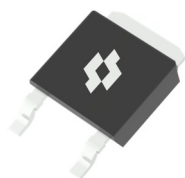
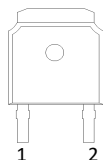


Product Summary

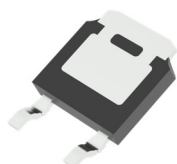
V_{RRM}	I_F	$T_{J,max}$	Q_c
650 V	10.0 A	175°C	28 nC

TO252-2L


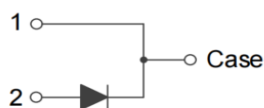
Top View



Top View



Bottom View



Schematic Diagram

Features

- 650V SiC Schottky rectifier
- Extremely fast switching speed
- Zero reverse recovery current
- Zero forward recovery voltage
- High reliability with low cost


**HALOGEN
FREE**
Applications

- Switched mode power supplies
- Solar
- Evs
- AC/DC converters

Ordering Information

Orderable Part Number	Package Type	Device Marking	Form	Quantity (pcs)
SCD10A65BU2	TO252-2L	C10A65B	13" Tape&Reel	2,500

Maximum Ratings (@ $T_C = 25^\circ\text{C}$, unless otherwise specified.)

Parameter		Symbol	Value	Unit
Repetitive Peak Reverse Voltage		V_{RRM}	650	V
Surge Peak Reverse Voltage		V_{RSM}	650	V
DC Blocking Voltage		V_{DC}	650	V
Continuous Forward Current	$T_C = 150^\circ\text{C}$	I_F	10.0	A
Repetitive Peak Forward Surge Current	$T_C = 25^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Wave	I_{FRM}	80	A
Non-Repetitive Peak Forward Surge Current	$T_C = 25^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Wave	I_{FSM}	105	A
Non-Repetitive Peak Forward Surge Current	$T_C = 25^\circ\text{C}$, $t_p=10\mu\text{s}$, Pluse	$I_{F,Max}$	840	A
Power Dissipation	$T_C = 25^\circ\text{C}$	P_{tot}	138	W
	$T_C = 110^\circ\text{C}$		60	W
Junction & Storage Temperature Range		T_J, T_{STG}	-55 ~ +175	°C

Thermal Characteristics

Parameter	Symbol	Typ.	Max.	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	1.19	-	°C/W

Electrical Characteristics (@ $T_J = 25^\circ\text{C}$, unless otherwise specified.)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F=10\text{A}, T_J = 25^\circ\text{C}$	-	1.4	1.7	V
		$I_F=10\text{A}, T_J = 175^\circ\text{C}$	-	1.7	2.00	V
Reverse Current	I_R	$V_R = 650\text{V}, T_J=25^\circ\text{C}$	-	1.0	20.0	μA
		$V_R = 650\text{V}, T_J=175^\circ\text{C}$	-	20	200	
Total Capacitive Charge	Q_C	$V_R=400\text{V}, T_J=25^\circ\text{C}, Q_C=\int_0^{V_R} C(V) dV$	-	28	-	nC
Total Capacitance	C	$V_R=0\text{V}, T_J=25^\circ\text{C}, f=1\text{MHz}$	-	550	-	pF
		$V_R=200\text{V}, T_J=25^\circ\text{C}, f=1\text{MHz}$	-	53	-	
		$V_R=400\text{V}, T_J=25^\circ\text{C}, f=1\text{MHz}$	-	48	-	
Capacitance Stored Energy	E_C	$V_R=400\text{V}$	-	7.0	-	μJ

Typical Electrical and Thermal Characteristics

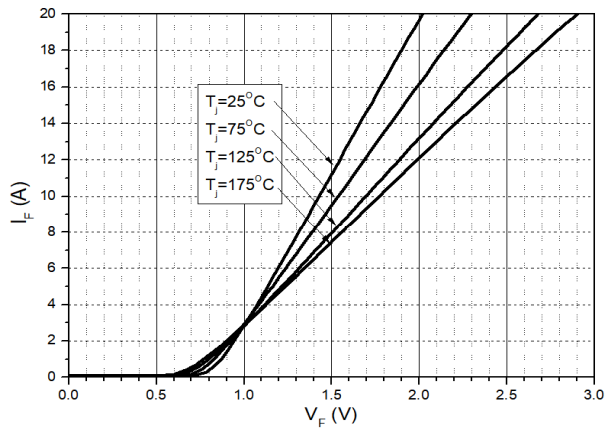


Figure 1. Forward Characteristics

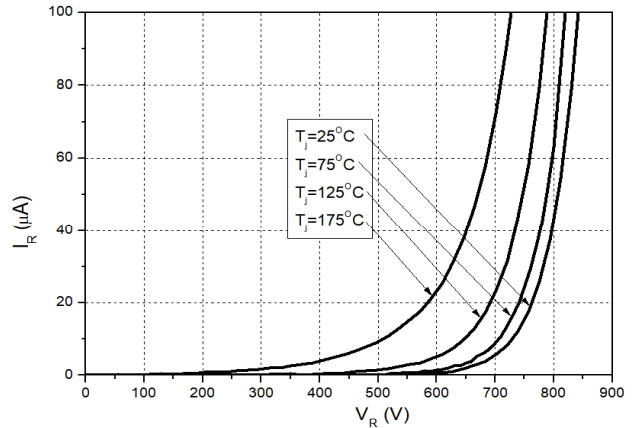
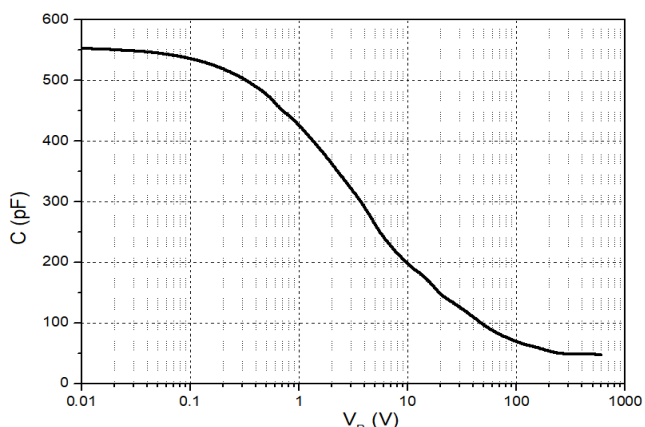
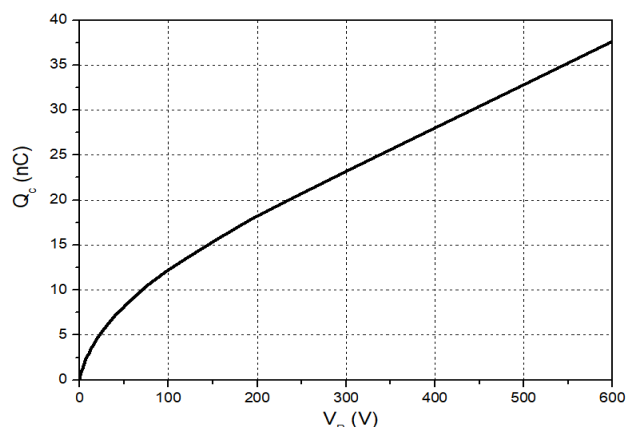
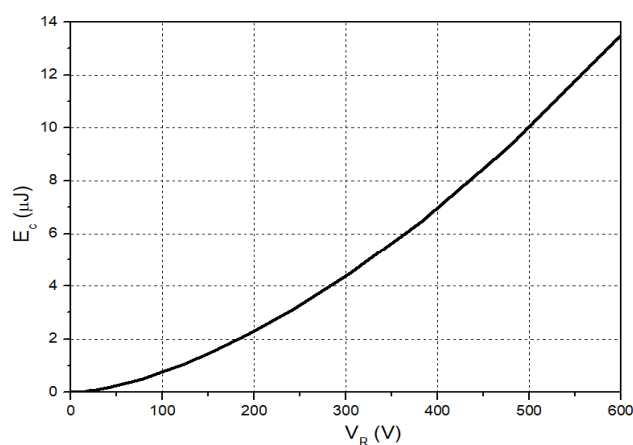
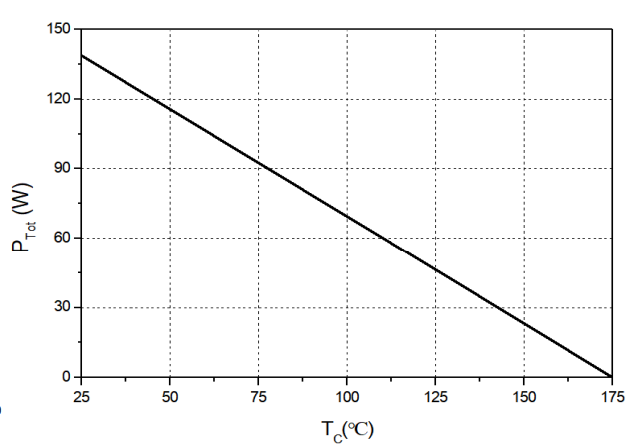
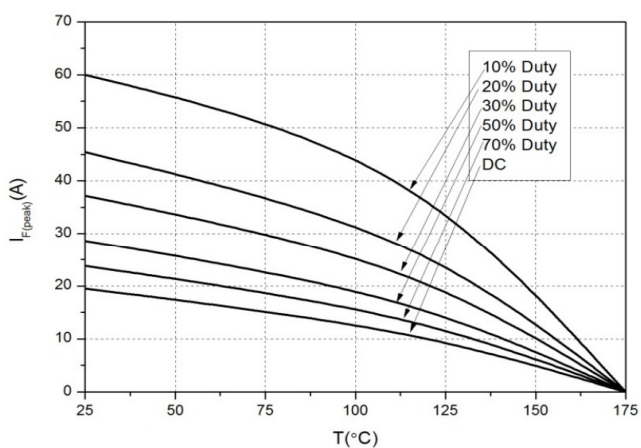
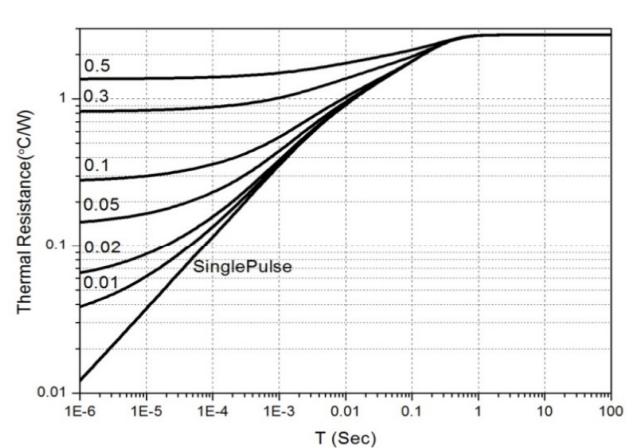
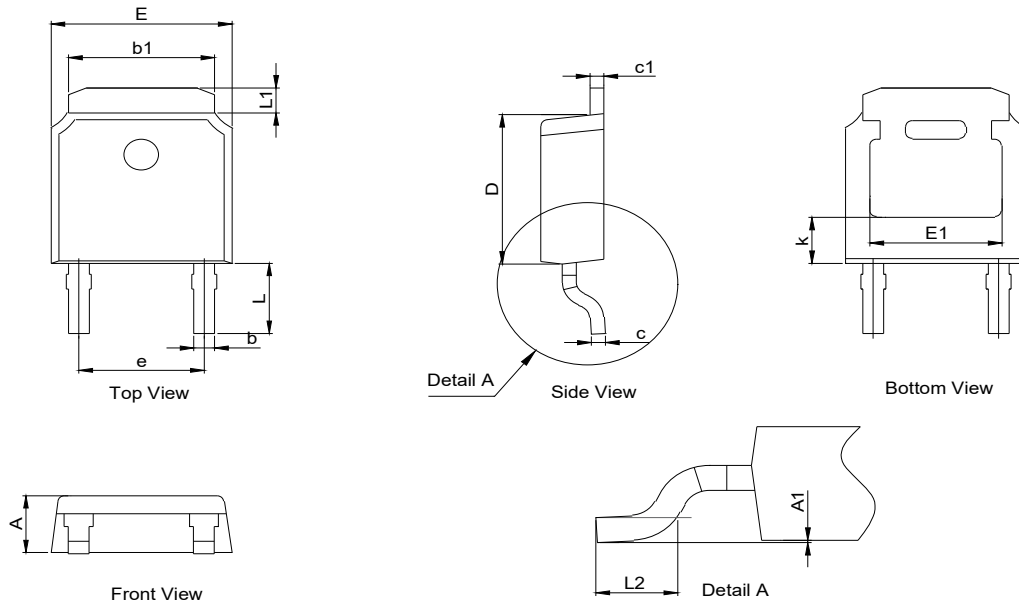


Figure 2. Reverse Characteristics

Typical Electrical and Thermal Characteristics

Figure 3. Capacitance vs. Reverse Voltage

Figure 4. Total Capacitance Charge vs. Reverse Voltage

Figure 5. Capacitance Stored Energy

Figure 6. Power Derating

Figure 7. Current Derating

Figure 8. Transient Thermal Impedance

TO252-2L Package Outline
Package Outline

NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M,1994.
2. ALL DIMENSIONS IN MILLIMETER (ANGLE IN DEGREE).
3. DIMENSIONS "D" AND "E" DO NOT INCLUDE MOLD FLASH PROTRUSIONS OR GATE BURRS.

DIM.	MILLIMETER		
	MIN.	NOM.	MAX.
A	2.100	2.300	2.500
A1	--	0.050	0.100
b	0.660	0.760	0.860
c	0.450	0.500	0.550
c1	0.410	0.510	0.610
D	5.900	6.100	6.300
D1	3.200 ref		
E	6.300	6.600	6.700
E1	4.830 ref		
b1	5.130	5.330	5.530
e	4.600 bsc		
L	2.710	2.910	3.110
L1	0.800	1.000	1.200
L2	1.000	1.300	1.750
k	1.800 ref		

Recommend Soldering Footprint
