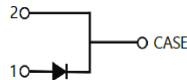


**SiC SCHOTTKY DIODE TYPE 8A**
**Features**

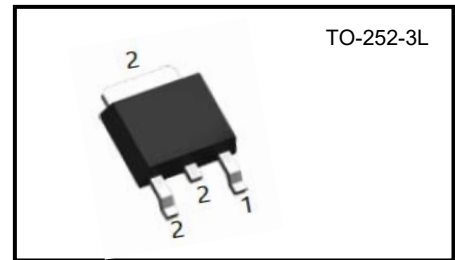
- Low reverse current
- Good surge current capability
- No reverse recovery current
- Halogen Free, and RoHS Compliant
- System efficiency improvement over Si diodes
- Suitable for high power application
- V<sub>DC</sub> 650 V
- I<sub>F</sub> (T<sub>C</sub>=25 / 160 °C) 30A/8A

**Benefits**

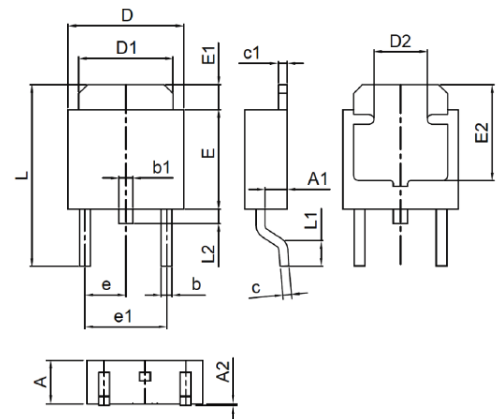
- Higher system level efficiency
- Increase system power density
- Reduction of heat sink requirements
- Parallel devices without thermal runaway


**Applications**

- Switch mode power supplies (SMPS)
- Server/telecom power supplies
- Industrial power supplies
- Solar
- UPS



Package Dimensions



Unit : mm

**Maximum Ratings**

Operating Junction Temperature : -55°C to +175°C

Storage Temperature : -55°C to +150°C

Part Number	Maximum Recurrent Peak Reverse Voltage	Maximum DC Blocking Voltage
CSR008-065J3	650V	650V

Symbol	Min	Max
A	2.20	2.50
A1	1.00	1.40
A2	0.00	0.15
b	0.50	0.70
b1	0.70	0.90
c	0.40	0.60
c1	0.40	0.60
D	6.20	6.70
D1	5.10	5.50
D2	2.70	3.20
E	5.20	5.80
E1	1.20	1.60
E2	5.00	5.60
e	2.20	2.40
e1	4.40	4.80
L	9.70	10.40
L1	1.40	1.70
L2	0.60	1.20

Maximum Rating	Symbol	Conditions	Value	Unit
Repetitive peak reverse voltage	V <sub>RRM</sub>	T <sub>J</sub> =25 °C	650	V
Continuous forward current	I <sub>F</sub>	T <sub>C</sub> =25 °C	30	A
		T <sub>C</sub> =125 °C	17	
		T <sub>C</sub> =160 °C	8	
Non-repetitive forward surge current	I <sub>FSM</sub>	T <sub>C</sub> =25 °C	64	
Power Dissipation	P <sub>D</sub>	T <sub>C</sub> =25 °C	88	W

**Electrical Characteristics**, at  $T_J = 25^\circ\text{C}$ , unless otherwise specified.

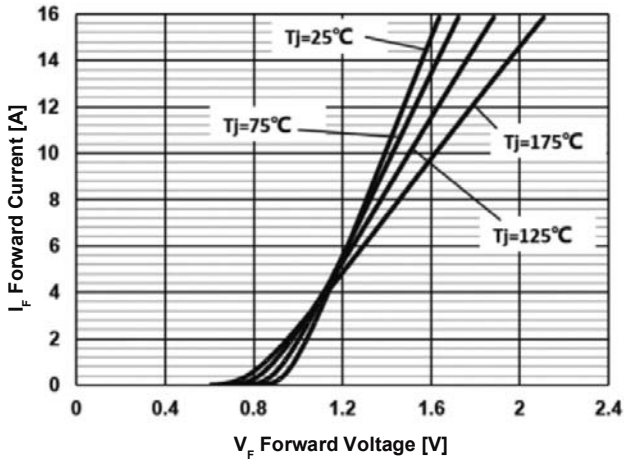
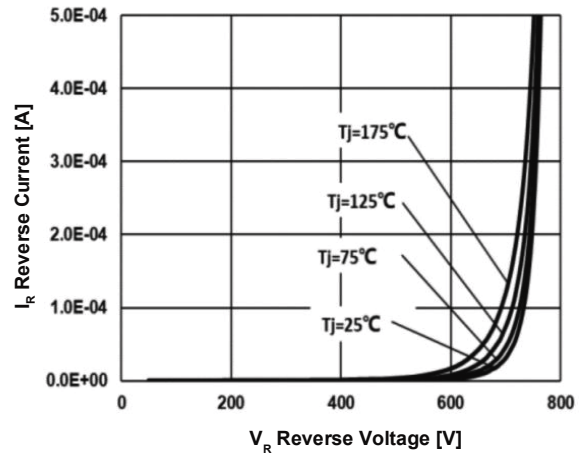
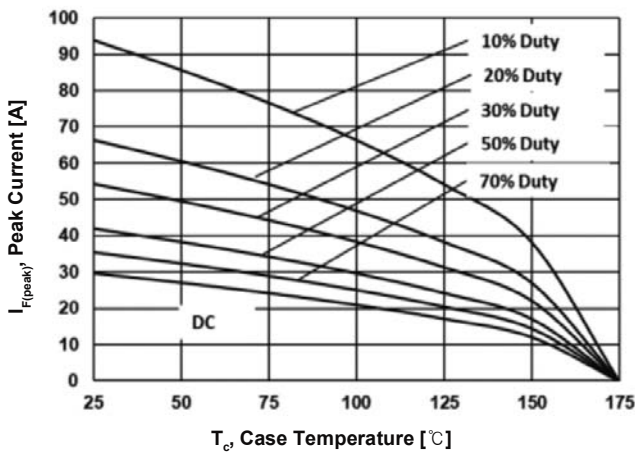
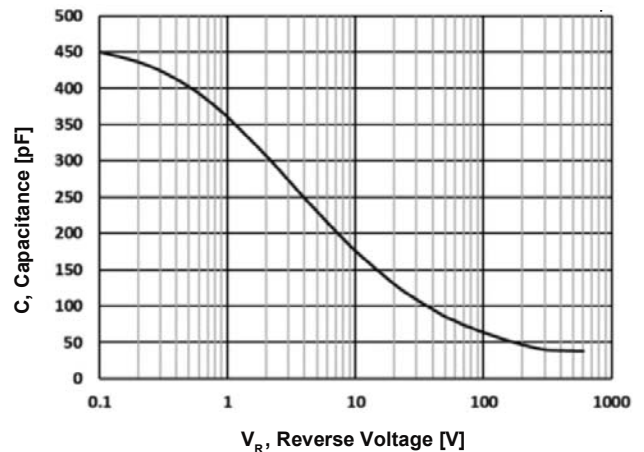
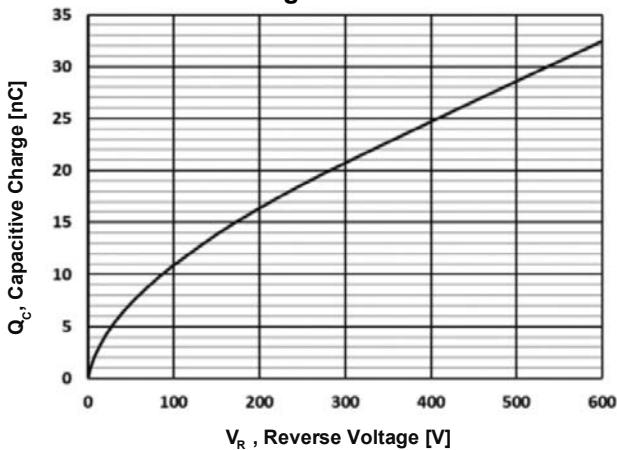
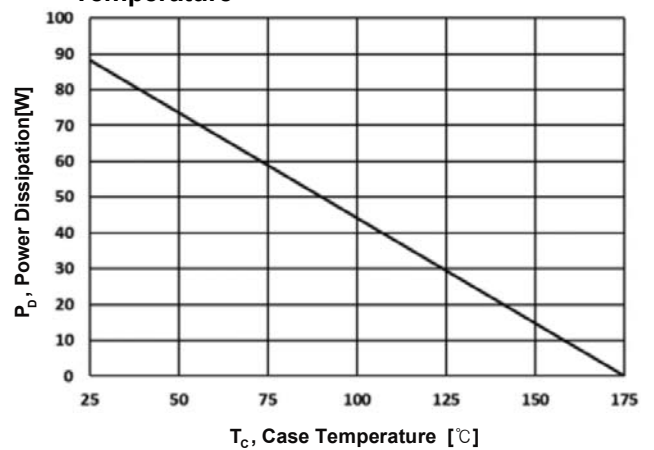
Static Characteristics	Symbol	Conditions	Values			Unit
			min.	typ.	max.	
DC blocking voltage	$V_{DC}$		650	-	-	V
Diode forward voltage	$V_F$	$I_F = 8\text{A}, T_J = 25^\circ\text{C}$	-	1.3	1.5	
		$I_F = 8\text{A}, T_J = 175^\circ\text{C}$	-	1.55	-	
Reverse current	$I_R$	$V_R = 650\text{V}, T_J = 25^\circ\text{C}$	-	8	50	$\mu\text{A}$
		$V_R = 650\text{V}, T_J = 175^\circ\text{C}$	-	40	200	

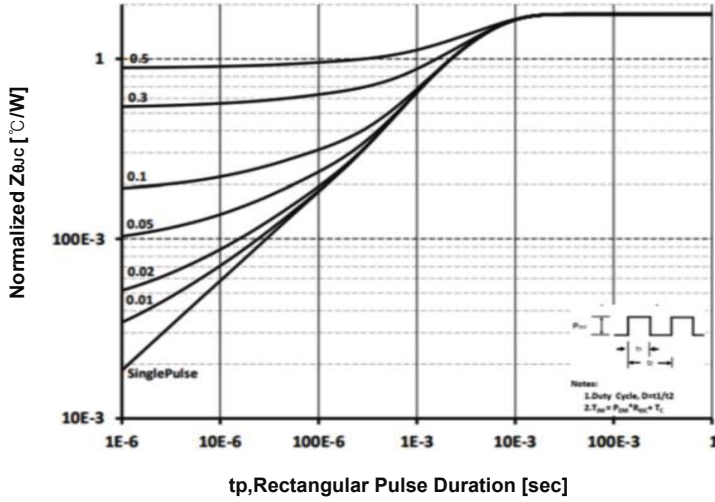
**AC Characteristics**

Static Characteristics	Symbol	Conditions	Values			Unit
			min.	typ.	max.	
Total capacitive charge	$Q_C$	$V_R = 400\text{V}$	-	23	-	nC
Total capacitance	C	$V_R = 0\text{V}, f = 1\text{ MHz}$	-	451	-	pF
		$V_R = 400\text{V}, f = 1\text{ MHz}$	-	38	-	

**Thermal Characteristics**

Static Characteristics	Symbol	Values	Unit
		typ.	
Thermal resistance from junction to case	$R_{\theta JC}$	1.7	$^\circ\text{C/W}$

**Typical Device Performance**
**Fig.1 Typical Forward Characteristics**

**Fig.2 Typical Reverse Current as Function of Reverse Voltage**

**Fig.3 Diode Forward Current as Function of Temperature**

**Fig.4 Typical Capacitance as Function of Reverse Voltage**

**Fig.5 Typical Reverse Charge as Function of Reverse Voltage**

**Fig.6 Power Dissipation as Function of Case Temperature**


**Typical Device Performance**
**Fig.7 Transient Thermal impedance**


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