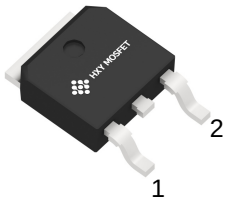
DSC04A065D1-13

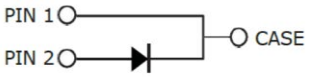
Silicon Carbide Schottky Diode

General Description

This product family offers state of the art performance. It is designed for high frequency applications where high efficiency and high reliability are required.



TO-252-2L



Features

- Low conduction loss due to low V_F
- Extremely low switching loss by tiny Q_C
- Highly rugged due to better surge current
- Industrial standard quality and reliability

Applications

- UPS
- Power Inverter
- High performance SMPS
- Power factor correction

Ordering Part Number	Package	Qty(PCS)
DSC04A065D1-13	TO-252-2L	2500

Maximum Ratings (at Tj = 25 °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 Peak Reverse Voltage	V_R	650	V
Continuous Forward Current T_C = 25°C T_C = 135°C T_C = 160°C	I_F	 14 7 4	A
Repetitive Peak Forward Surge Current T_C = 25°C,t_p=10ms,Half Sine Pulse T_C = 110°C,t_p=10ms,Half Sine Pulse	I_{FRM}	 23 15	A
Non-Repetitive Forward Surge Current T_C = 25°C,t_p=10ms,Half Sine Pulse T_C = 110°C,t_p=10ms,Half Sine Pulse	I_{FSM}	 36 28	A
i^2dt value T_C = 25°C,t_p=10ms,Half Sine Pulse T_C = 110°C,t_p=10ms,Half Sine Pulse	$\int i^2dt$	 6.5 3.9	A^2s
Power dissipation T_C = 25°C T_C = 110°C	P_{tot}	 51 22	W
Operating junction Range	T_j	-55 to +175	°C
Storage temperature Range	T_{stg}	-55 to +150	°C

Thermal Resistance

Parameter	Symbol	Value	Unit
Thermal resistance, junction – case.	R_{thJC}	2.90	°C/W

Electrical Characteristics (at Tj = 25 °C, unless otherwise specified)

Parameter	Symbol	Value			Unit	Test Condition
		min.	typ.	max.		
Forward Voltage	V_F	-	1.3	1.5	V	I_F=4A, T_j=25°C
		-	1.55	-		T_j=175°C
Reverse Current	I_R	-	10	50	μA	V_R=650V, T_j=25°C
		-	40	150		T_j=175°C
Total Capacitive Charge	Q_C	-	10.6	-	nC	V_R=400V，T_j=25℃ $Q_C = \int_0^{V_R} C(V)dV$
Total Capacitance	C	-	203	-	pF	T_j=25℃, f=1MHz, V_R=0V
		-	21	-		V_R=200V
		-	16	-		V_R=400V

Characteristics Curve:

Fig 1: Forward Characteristics

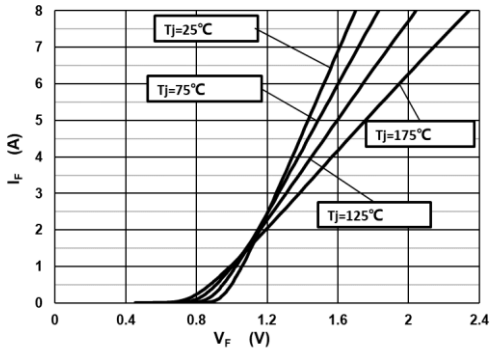


Fig 2: Reverse Characteristics

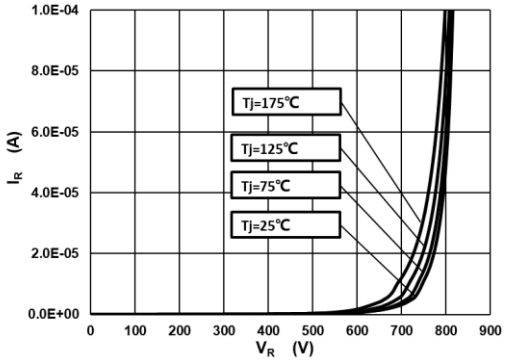


Fig 3: Current Derating

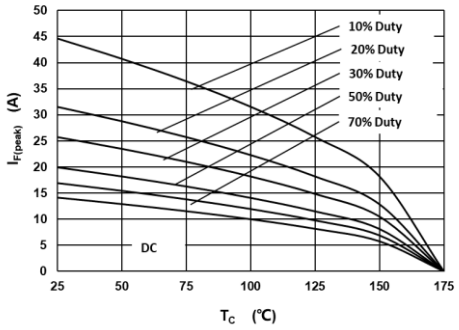


Fig 4: Power Derating

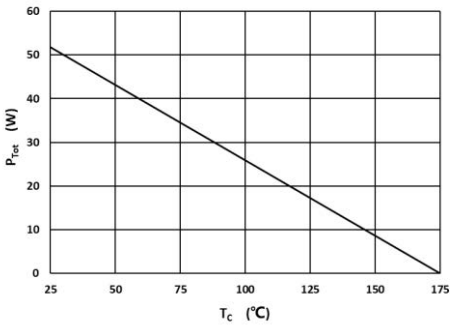


Fig 5: Capacitance vs. Reverse Voltage

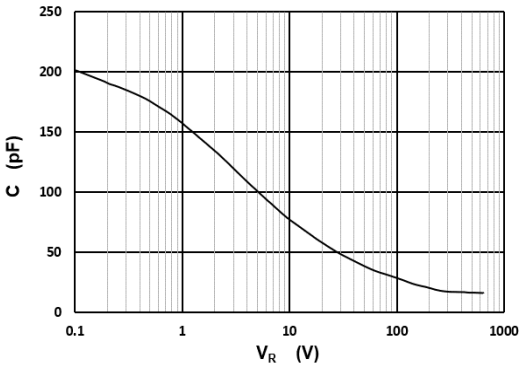


Fig 6: Reverse Charge vs. Reverse Voltage

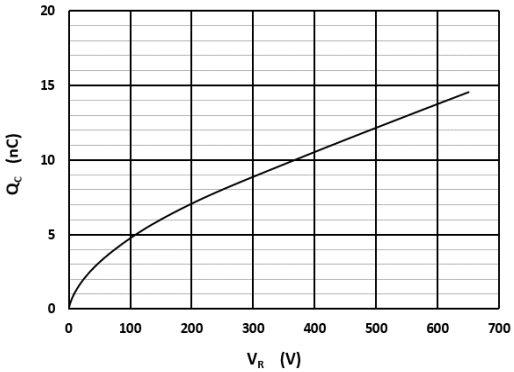


Fig 7: Typical Capacitance Stored Energy

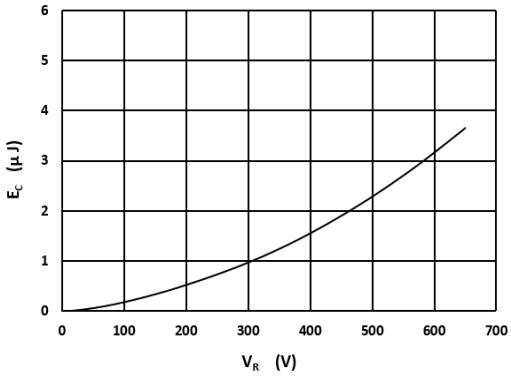
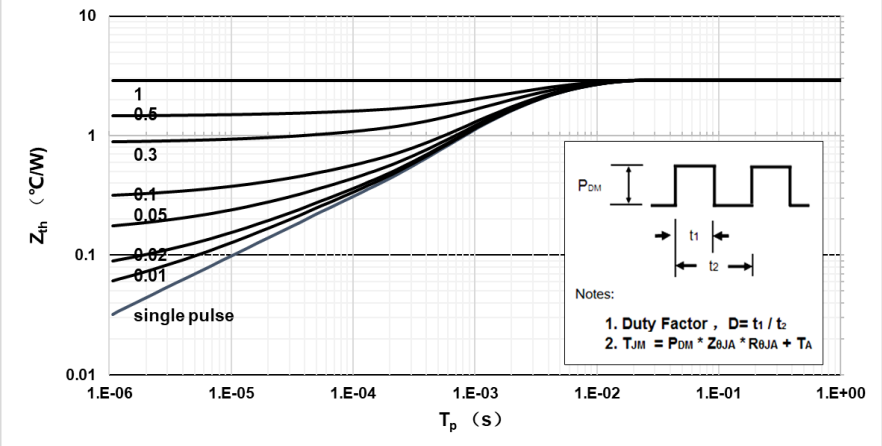
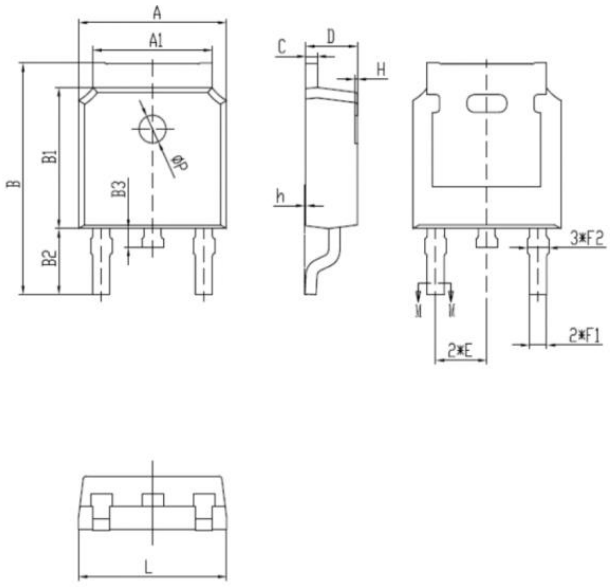


Fig 8: Transient Thermal Impandance



Package Dimensions

Package TO-252-2L



项目	规范(mm)	
	MIN	MAX
A	6.50	6.70
A1	5.16	5.46
B	9.77	10.17
B1	6.00	6.20
B2	2.60	3.00
B3	0.70	0.90
C	0.45	0.61
D	2.20	2.40
E	2.186	2.386
F1	0.67	0.87
F2	0.76	0.96
H	0.00	0.30
h	0.00	0.127
L	6.50	6.70
Φ P	1.10	1.30

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HACPDQC5V0-HF HAZ4007-01H HLY323BC1524L HRCLAMP3371ZCTFT HSEN2411D3 PESDNC2XD5VBF LM393DR-HXY PESDSC2FD5VU ESD5LM5.0C-HXY HESDSLC3V3D3B HPTVSUC3D5VB HSG3D15B3.3MA HCEZ36V,L3F HSD15C.TCT PESDLC2FD3V3BH PJSD24CW_R1 RLSD32A121V AQ15C-01FTG AZ4007-01H AZ4836-01L BV05C-H PJEC5V0M1FN2 TPSMB28A-VR ESD5L5.0C-HXY HSEN3611D3 HSTS521050B331 PESDNC2XD5VBL 60N06 HESD36VD3B TPSMB100CA-VR