Features

- Zero Reverse Recovery Current
- Positive Temperature Coefficient
- High-Speed Switching
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. “Green” Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)(Note 2)

4 Amp Silicon Carbide Schottky Barrier Rectifier 650 Volts

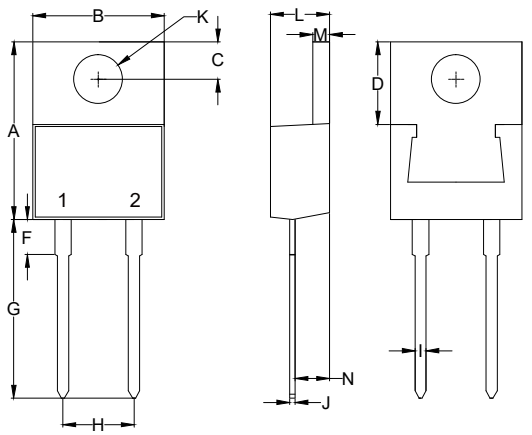
Benefits

- Temperature-Independent Performance
- Low Switching Loss
- Low Heat Dissipation Requirements

Applications

- Switching Power Supply
- Power Factor Correction
- Motor Drive, Traction
- Charging Pile

TO-220AC



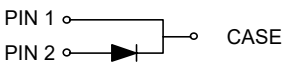
DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.560	0.625	14.22	15.88	
B	0.380	0.420	9.65	10.67	
C	0.100	0.135	2.54	3.43	
D	0.230	0.270	5.84	6.86	
F	-----	0.250	-----	6.35	
G	0.500	0.580	12.70	14.73	
H	0.190	0.210	4.83	5.33	
I	0.020	0.045	0.51	1.14	
J	0.012	0.025	0.30	0.64	
K	0.139	0.161	3.53	4.09	Φ
L	0.140	0.190	3.56	4.83	
M	0.045	0.055	1.14	1.40	
N	0.080	0.115	2.03	2.92	

Maximum Ratings

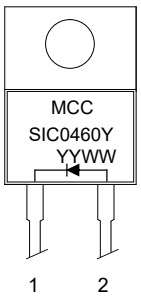
Parameter		Symbol	Rating	Unit
Peak Repetitive Reverse Voltage@ T_j=25°C		V_{RRM}	650	V
Surge Peak Reverse Voltage@ T_j=25°C		V_{RSM}	650	V
DC Reverse Voltage@ T_j=25°C		V_{DC}	650	V
Continuous forward Current	@T_C=25°C	I_F	14	A
	@T_C=135°C		6.5	
	@T_C=156°C		4	
Non-repetitive Peak Forward Surge Current @T_C=25°C, t_p=10ms, Half Sine Pulse		I_{FSM}	26	A
Power Dissipation	@T_C=25°C	P_D	56	W
	@T_C=110°C		24	

Note1:Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
Note2:High Temperature Solder Exemptions Applied, see EU Directive Annex 7a.

Internal Structure:



Device Marking:



Device Code: SIC0460Y
Date Code: YYWW (Year & Week)

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Typ.	Max.	Unit
Forward Voltage	V_F	I_F=4A, T_j=25°C	1.4	1.55	V
		I_F=4A, T_j=175°C	1.7		V
Reverse Leakage Current	I_R	V_R=650V, T_j=25°C	3	25	μA
		V_R=650V, T_j=175°C	20		μA
Total Capacitive Charge	Q_C	V_R=400V, T_j=25°C	12		nC
Total capacitance	C	V_R=0V, f=1MHz	210		pF
		V_R=200V, f=1MHz	24		pF
		V_R=400V, f=1MHz	18		pF
Capacitance Stored Energy	E_C	V_R=400V	1.5		μJ

Thermal characteristics

Parameter	Symbol	Min	Typ	Max	Unit
Operating Junction Temperature Range	T_j	-55		175	°C
Storage Temperature Range	T_{stg}	-55		175	°C
Thermal Resistance from Junction to Case	Rth_{J-C}		2.65		°C/W

Curve Characteristics

Fig. 1 - Typical Forward Characteristics

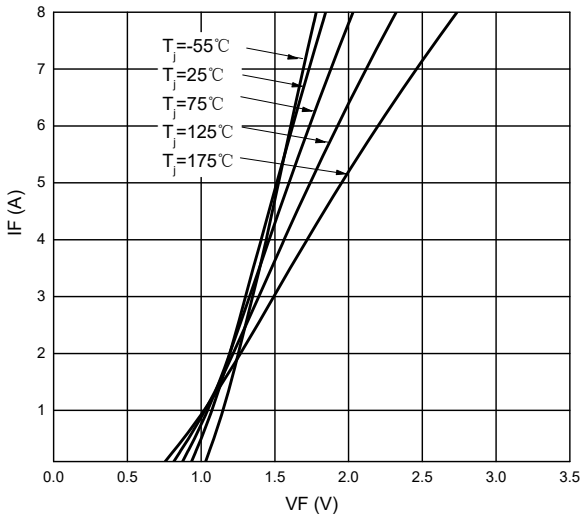


Fig. 2 - Typical Reverse Leakage Characteristics

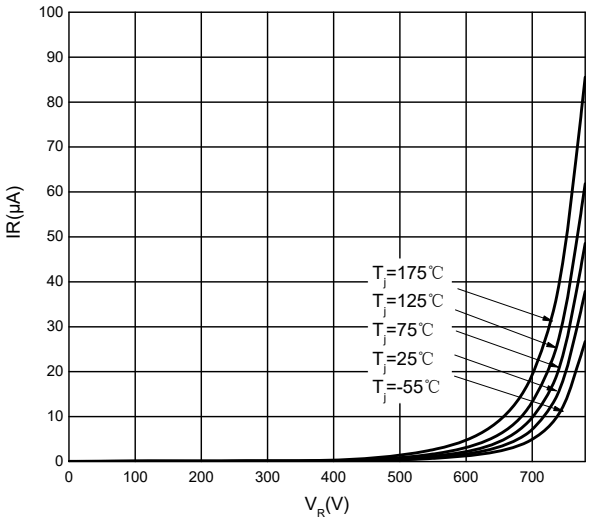


Fig. 3 - Capacitance vs Reverse Voltage

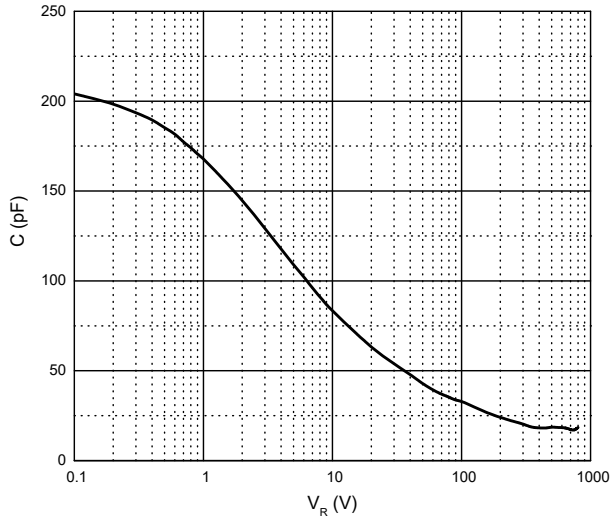


Fig. 4 - Typical Power Derating

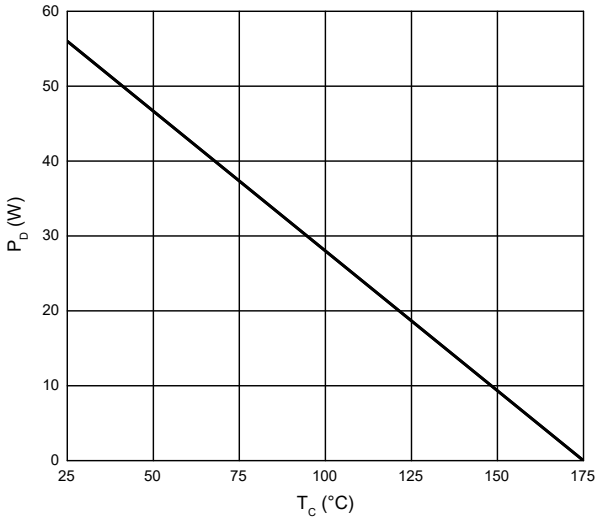


Fig. 5 - Capacitive Charge vs Reverse Voltage

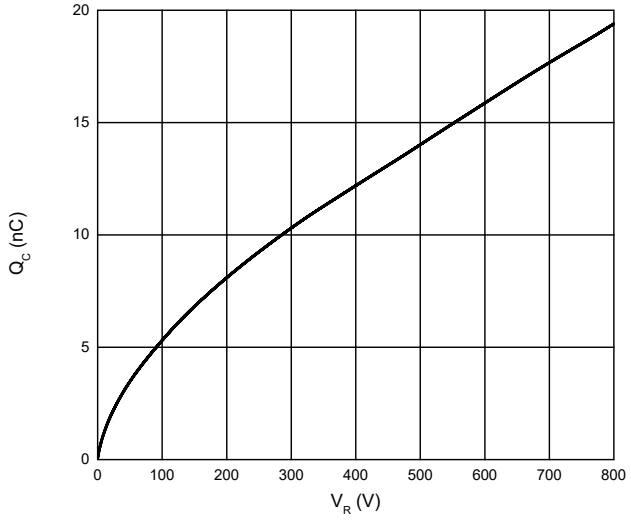
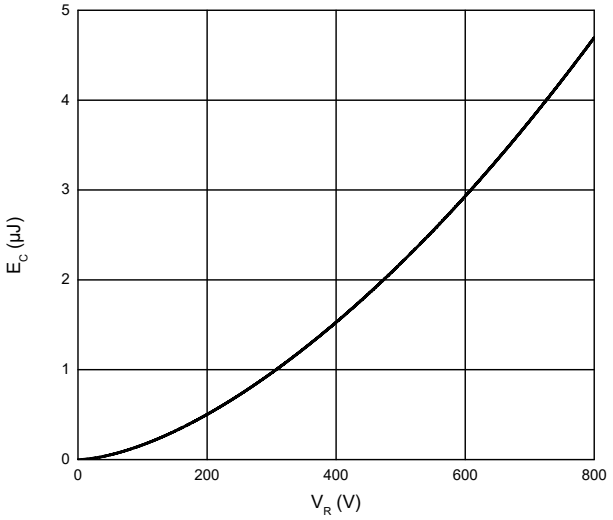


Fig. 6 - Capacitance Stored Energy



Curve Characteristics

Fig. 7 - Current Derating

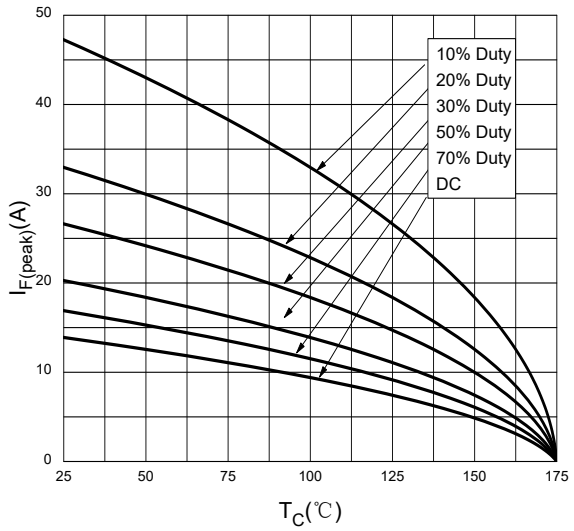
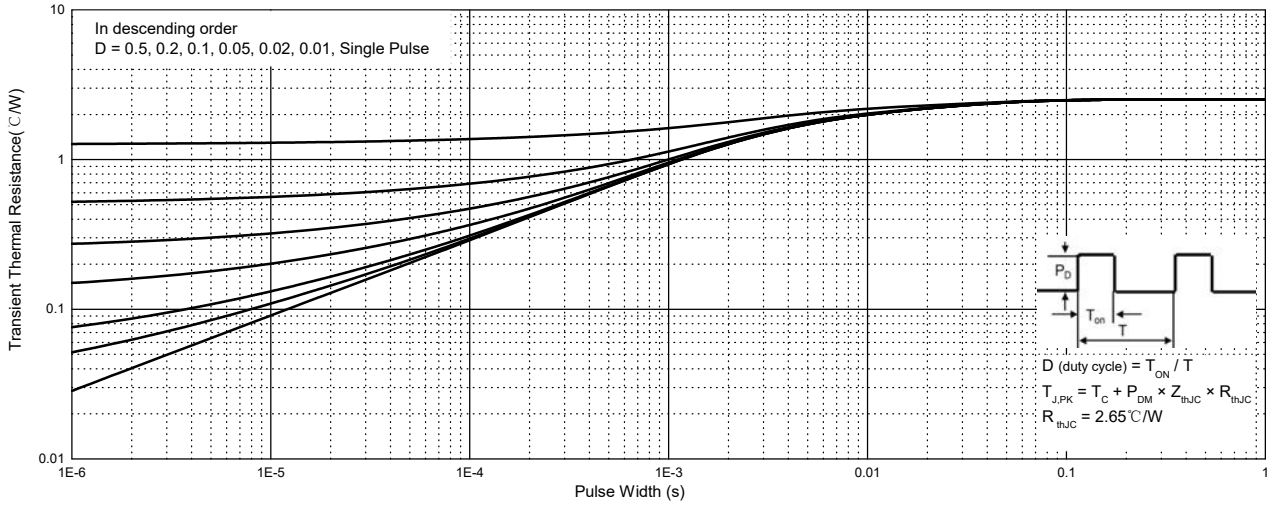


Fig.8 - Transient Thermal Impedance



Ordering Information

Device	Packing
Part Number-BP	Bulk: 50pcs/Tube, 1Kpcs/Box, 5Kpcs/Carton

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