

Features

- Zero Reverse Recovery Current
- Positive Temperature Coefficient
- High-Speed Switching
- Maximum working temperature at 175 °C
- 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)

Benefits

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

Applications

- Uninterruptible power supply.
- Power Factor Correction
- Motor Drive, Traction

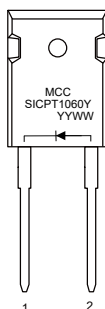
Maximum Ratings

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	27	A
Continuous forward Current @T _C =135°C	I _F	13	A
Continuous forward Current @T _C =153°C	I _F	10	A
Non-repetitive Peak Forward Surge Current @T _C =25°C, t _p =10ms, Half Sine Pulse	I _{FSM}	70	A
Power Dissipation @T _C =25°C	P _D	126	W

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.

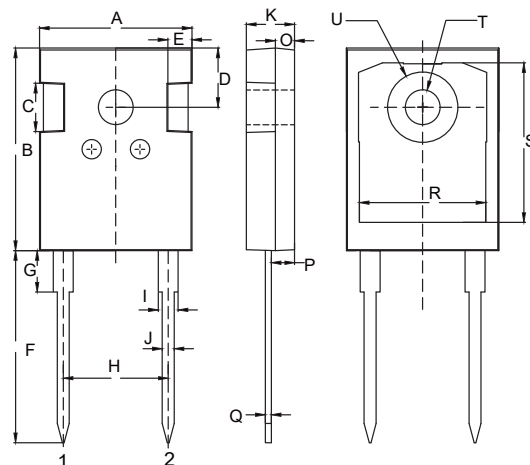
Internal Structure:



Device Code: SICPT1060Y
Date Code: YYWW (Year & Week)

10Amp Silicon Carbide Schottky Barrier Rectifier 650 Volts

TO-247AD



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.602	0.642	15.30	16.30	
B	0.799	0.839	20.30	21.30	
C	0.189	0.205	4.80	5.20	
D	0.242		6.15		BSC.
E	0.091	0.106	2.30	2.70	
F	0.768	0.807	19.50	20.50	
G	-----	0.189	-----	4.80	
H	0.428		10.88		BSC.
I	0.075	0.087	1.91	2.21	
J	0.044	0.054	1.11	1.36	
K	0.189	0.205	4.80	5.20	
O	0.073	0.085	1.85	2.15	
P	0.087	0.103	2.21	2.61	
Q	0.020	0.030	0.51	0.75	
R	0.512	0.535	13.00	13.60	
S	0.640	0.663	16.25	16.85	
T	0.134	0.150	3.40	3.80	Φ
U	-----	0.287	-----	7.30	Φ

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F=10A, T_J=25^{\circ}C$	1.35	1.55	V
		$I_F=10A, T_J=175^{\circ}C$	1.80		V
Reverse Leakage Current	I_R	$V_R=650V, T_J=25^{\circ}C$	0.5	5	μA
		$V_R=650V, T_J=175^{\circ}C$	2		μA
Total Capacitive Charge	Q_C	$V_R=400V$	30		nC
Total capacitance	C	$V_R=0V, f=1MHz$	543		pF
		$V_R=200V, f=1MHz$	55		pF
		$V_R=400V, f=1MHz$	52		pF
Capacitance Stored Energy	E_C	$V_R=400V$	3.7		μJ

Thermal characteristics

Parameter	Symbol	Min	Typ	Max	Unit
Operating Junction Temperature Range	T_J	-55		175	$^{\circ}C$
Storage Temperature Range	T_{stg}	-55		175	$^{\circ}C$
Thermal Resistance from Junction to Case	$R_{th_{J-C}}$		1.19		$^{\circ}C/W$

Curve Characteristics

Fig. 1 - Typical Forward Characteristics

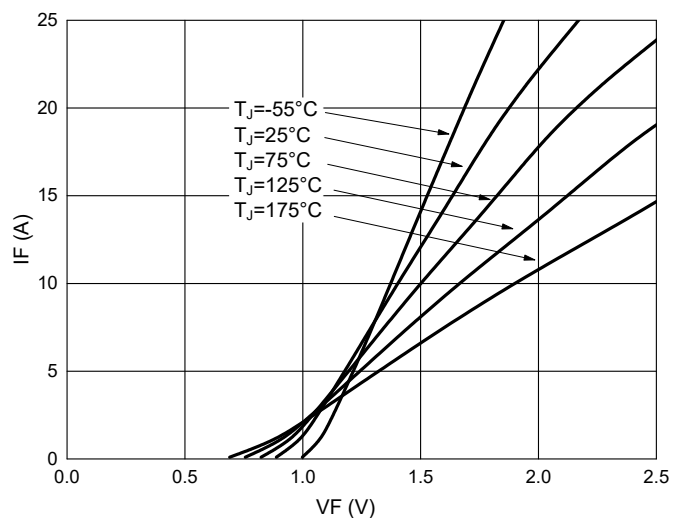


Fig. 2 - Typical Reverse Leakage Characteristics

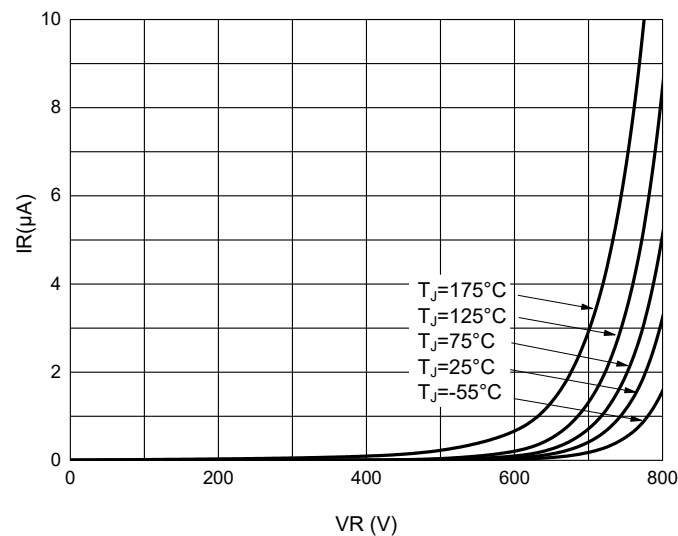


Fig. 3 - Capacitance vs Reverse Voltage

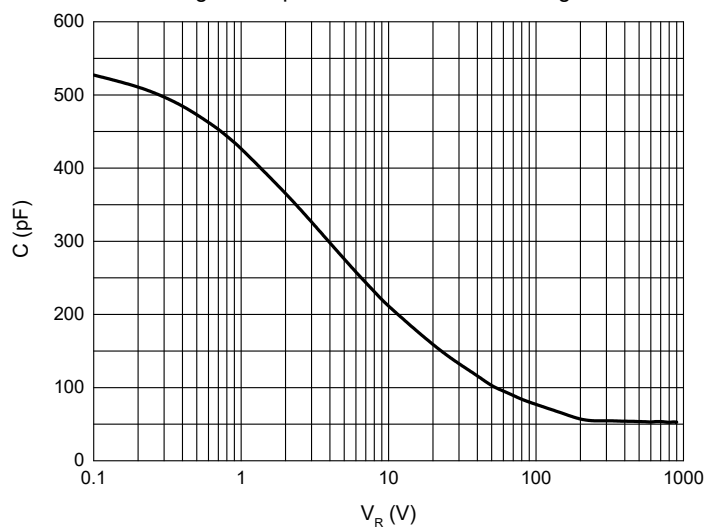


Fig. 4 - Current Derating

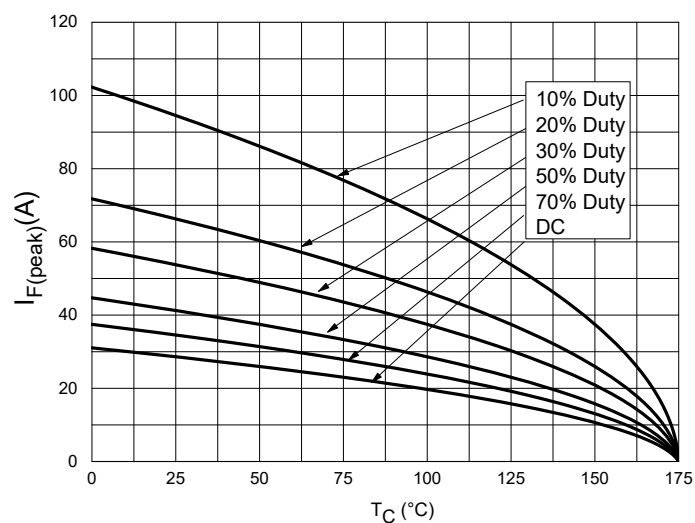


Fig. 5 - Capacitive Charge vs Reverse Voltage

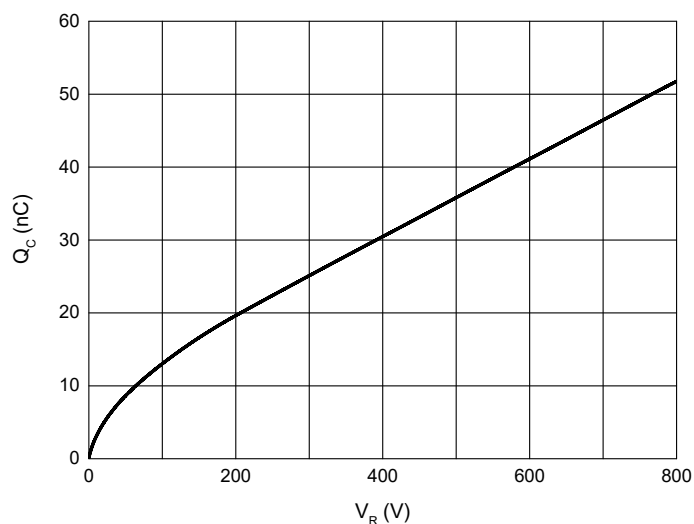
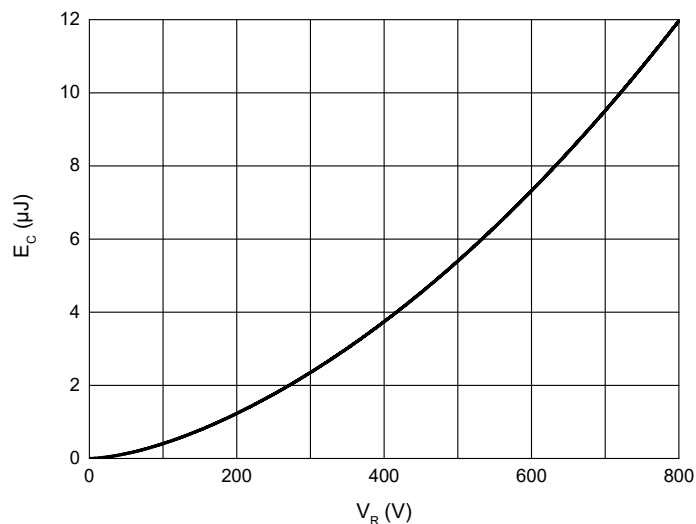


Fig. 6 - Capacitance Stored Energy



Curve Characteristics

Fig. 7 - Typical Power Derating

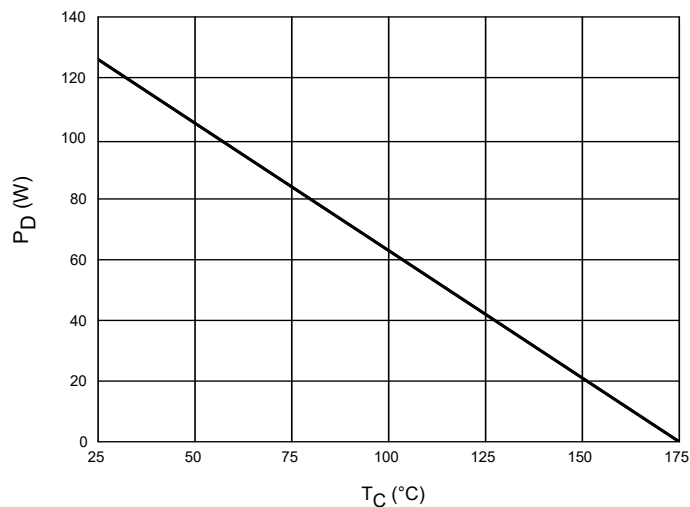
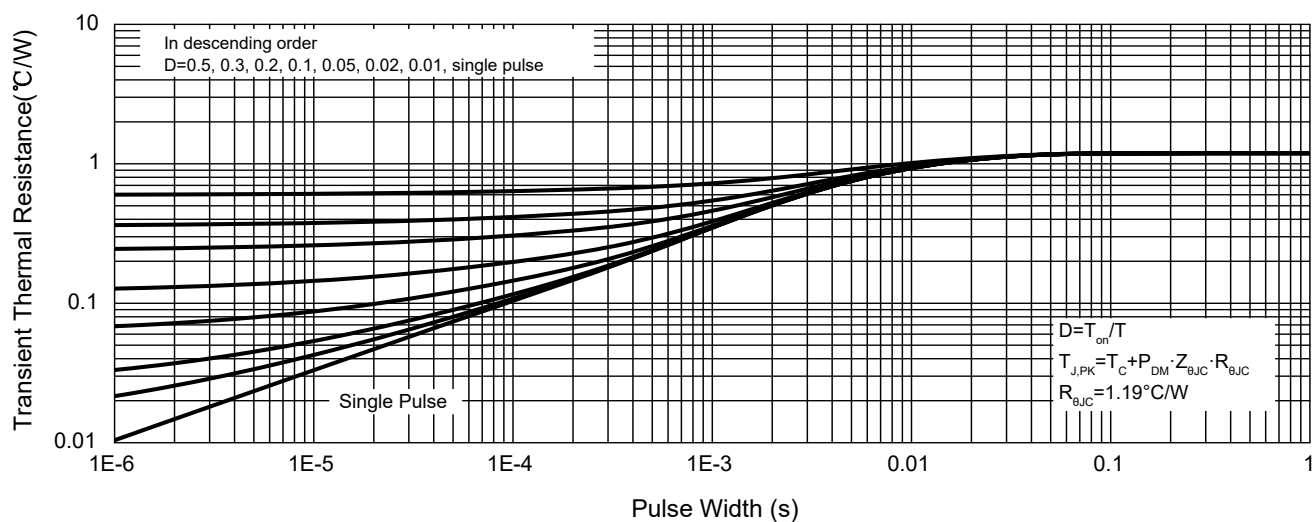


Fig. 8 - Transient Thermal Impedance



Ordering Information

Device	Packing
SICPT1060Y-BP	Bulk: 30pcs/Tube, 360pcs/Box, 1800pcs/Carton

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