

Features

- Zero Reverse Recovery Current
- Positive Temperature Coefficient
- High-Speed Switching
- Moisture Sensitivity Level 1
- 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

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

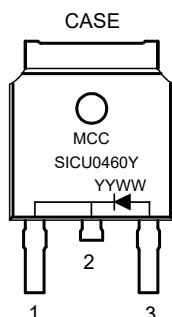
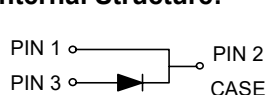
Maximum Ratings

Parameter	Symbol	Rating	Unit
Peak Repetitive Reverse Voltage@ $T_j=25^{\circ}\text{C}$	V_{RRM}	650	V
Surge Peak Reverse Voltage@ $T_j=25^{\circ}\text{C}$	V_{RSM}	650	V
DC Reverse Voltage@ $T_j=25^{\circ}\text{C}$	V_{DC}	650	V
Continuous forward Current	I_F	@ $T_C=25^{\circ}\text{C}$	14.5
		@ $T_C=135^{\circ}\text{C}$	7.0
		@ $T_C=158^{\circ}\text{C}$	4
Non-repetitive Peak Forward Surge Current @ $T_C=25^{\circ}\text{C}$, $t_p=10\text{ms}$, Half Sine Pulse	I_{FSM}	26	A
Power Dissipation	P_D	@ $T_C=25^{\circ}\text{C}$	59
		@ $T_C=110^{\circ}\text{C}$	26

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.

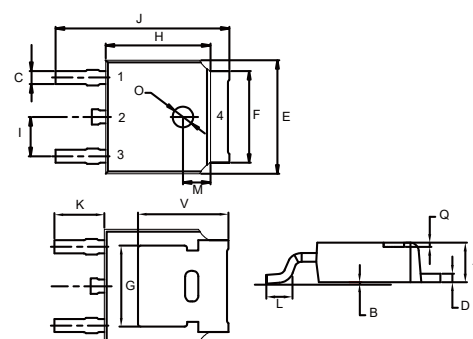
Internal Structure:



Device Code: SICU0460Y
Date Code: YYWW (Year & Week)

4 Amp Silicon Carbide Schottky Barrier Rectifier 650 Volts

DPAK(TO-252)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.087	0.094	2.20	2.40	
B	0.000	0.005	0.00	0.13	
C	0.026	0.034	0.66	0.86	
D	0.018	0.023	0.46	0.58	
E	0.256	0.264	6.50	6.70	
F	0.201	0.215	5.10	5.46	
G	0.190		4.83		TYP.
H	0.236	0.244	6.00	6.20	
I	0.086	0.094	2.18	2.39	
J	0.386	0.409	9.80	10.40	
K	0.114		2.90		TYP.
L	0.055	0.067	1.40	1.70	
M	0.063		1.60		TYP.
O	0.043	0.051	1.10	1.30	
Q	0.000	0.012	0.00	0.30	
V	0.211		5.35		TYP.

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F=4A, T_J=25^{\circ}C$	1.4	1.55	V
		$I_F=4A, T_J=175^{\circ}C$	1.7		V
Reverse Leakage Current	I_R	$V_R=650V, T_J=25^{\circ}C$	3	25	μA
		$V_R=650V, T_J=175^{\circ}C$	20		μA
Total Capacitive Charge	Q_C	$V_R=400V, T_J=25^{\circ}C$	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	$^{\circ}C$
Storage Temperature Range	T_{stg}	-55		175	$^{\circ}C$
Thermal Resistance from Junction to Case	R_{thJ-C}		2.52		$^{\circ}C/W$

Curve Characteristics

Fig. 1 - Typical Forward Characteristics

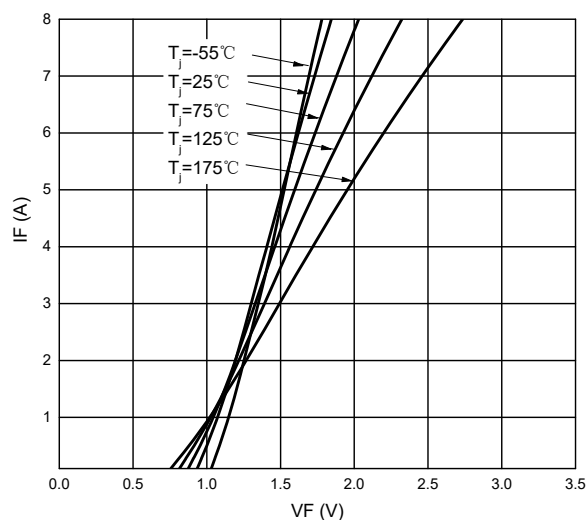


Fig. 2 - Typical Reverse Leakage Characteristics

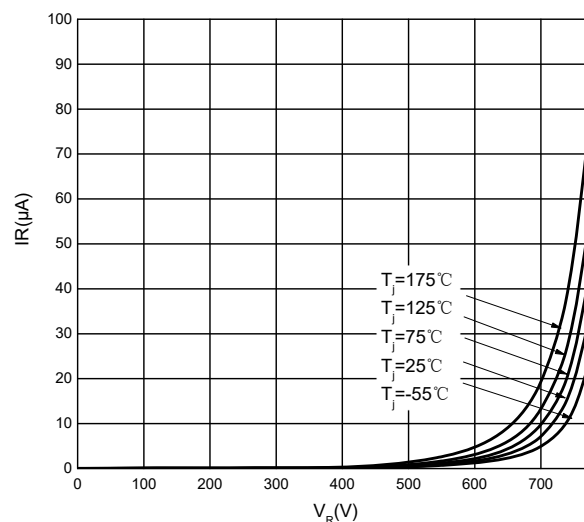


Fig. 3 - Capacitance vs Reverse Voltage

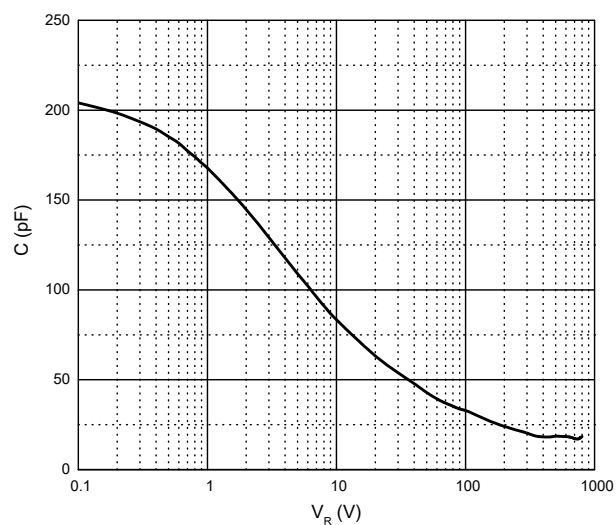


Fig. 4 - Typical Power Derating

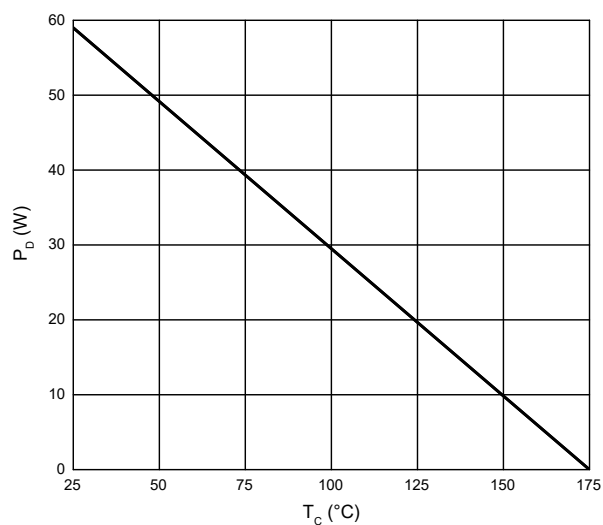


Fig. 5 - Capacitive Charge vs Reverse Voltage

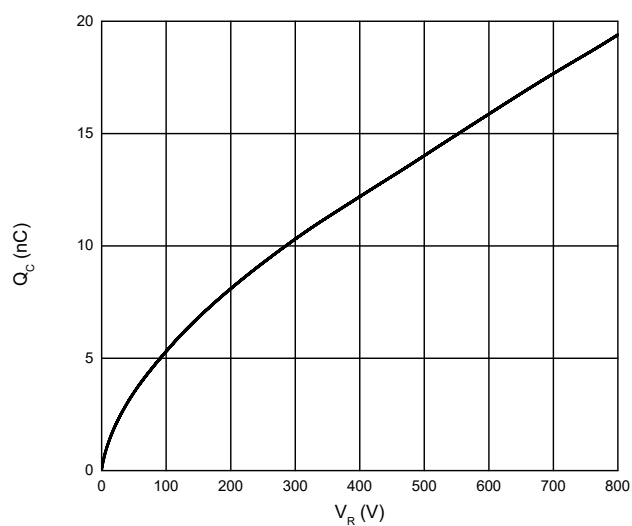
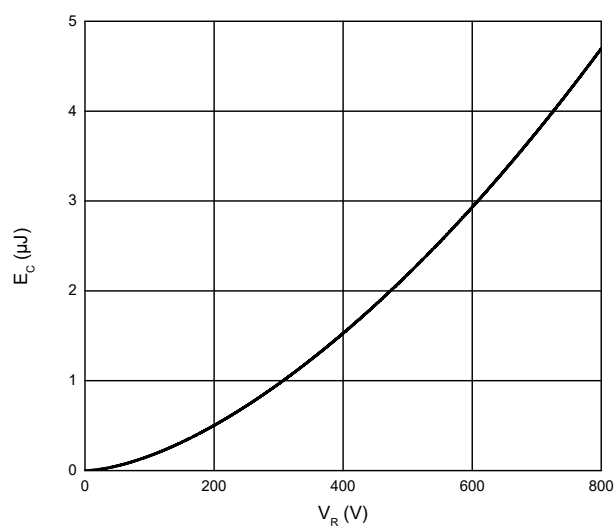


Fig. 6 - Capacitance Stored Energy



Curve Characteristics

Fig. 7 - Current Derating

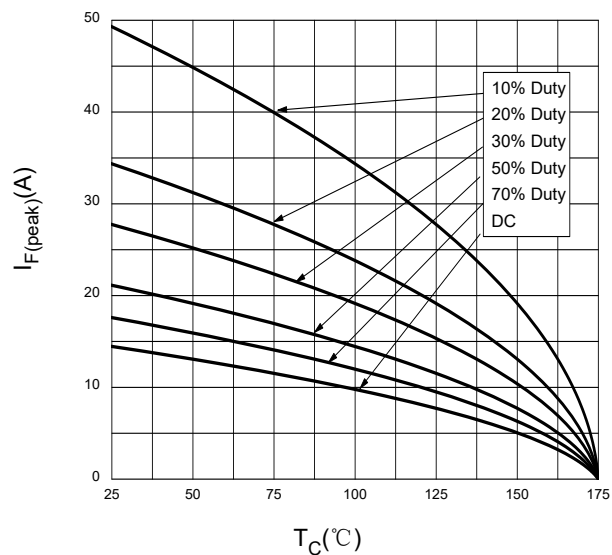
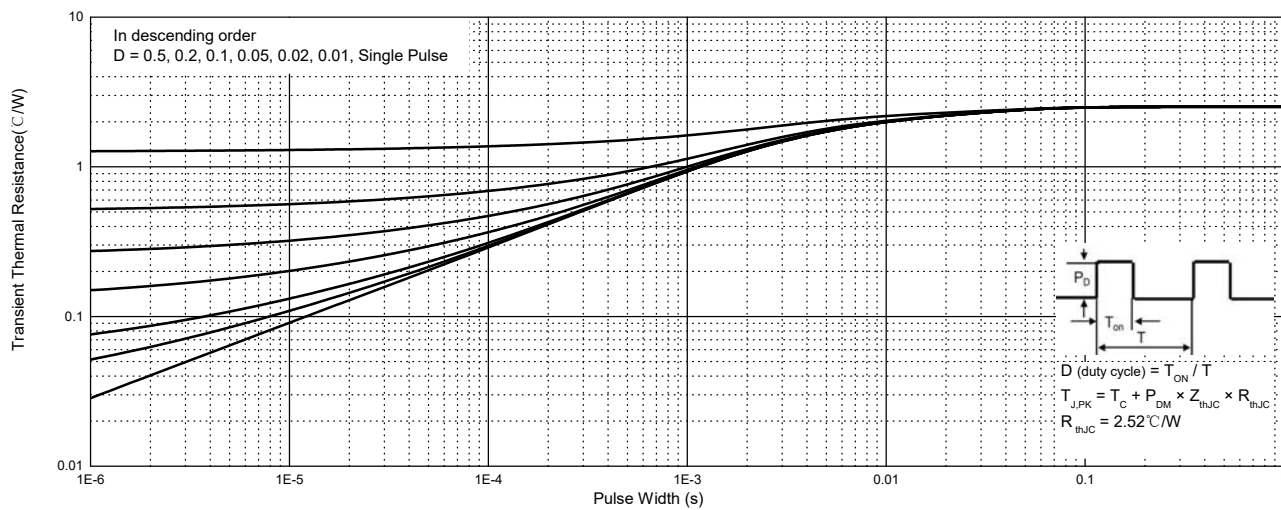


Fig.8 - Transient Thermal Impedance



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel

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