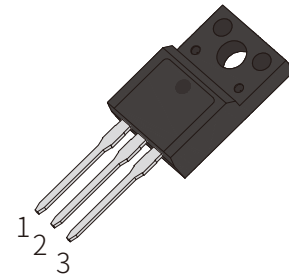


FEATURES

- | Zero reverse recovery current
- | Zero forward recovery voltage
- | High frequency operation
- | Switching characteristics independent of temperature
- | Fast switch
- | Positive temperature coefficient of forward voltage (V_f)



TO-220F



Schematic Symbol

APPLICATION

- | Switch mode power supplies(SMPS)
- | Boost diodes in PFC or DC/DC stages
- | Free wheeling diodes in inverter stages
- | AC/DC converters

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	650	V	
Maximum DC Blocking Voltage	V_{DC}	650	V	
Average Forward Current	$I_{F(AV)}$	10	A	
Repetitive Peak Forward Surge Current	I_{FRM}	70		
Non-Repetitive Peak Forward Surge Current	I_{FSM}	92		
Power Dissipation	P_{tot}	$T_c=25^{\circ}\text{C}$	71	W
		$T_c=110^{\circ}\text{C}$	30	
Thermal Resistance from Junction to Case	$R_{th(j-c)}$	2.1	$^{\circ}\text{C}/\text{W}$	
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +175	$^{\circ}\text{C}$	

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$)

Parameter	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage	$I_F=10\text{A}, T_j=25^{\circ}\text{C}$	V_F		1.4	1.7	V
	$I_F=10\text{A}, T_j=175^{\circ}\text{C}$			1.7	2.0	
Reverse Current	$V_R=650\text{V}, T_j=25^{\circ}\text{C}$	I_R		5	20	μA
	$V_R=650\text{V}, T_j=175^{\circ}\text{C}$			80	200	
Total Capacitance	$V_R=0\text{V}, f=1\text{MHz}$	C		608		pF
	$V_R=200\text{V}, f=1\text{MHz}$			58		
	$V_R=400\text{V}, f=1\text{MHz}$			48		
Total Capacitance Charge	$V_R=400\text{V}, T_j=25^{\circ}\text{C}$	Q_C		35		nC
Capacitance Stored Energy	$V_R=400\text{V}$	E_C		7.5		μJ

CHARACTERISTIC CURVES

Fig. 1- Forward Characteristics

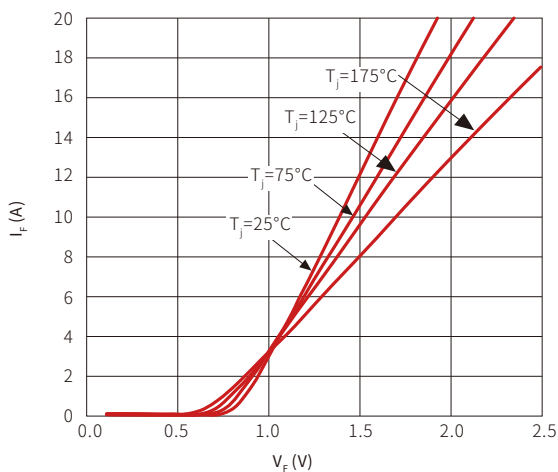


Fig. 2- Reverse Characteristics

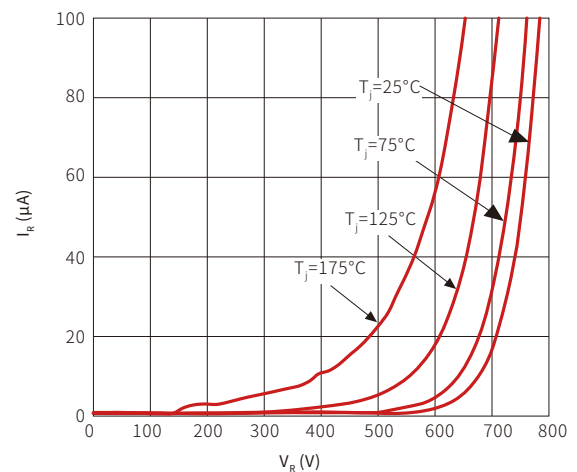


Fig. 3-Capacitance Vs. Reverse Voltage

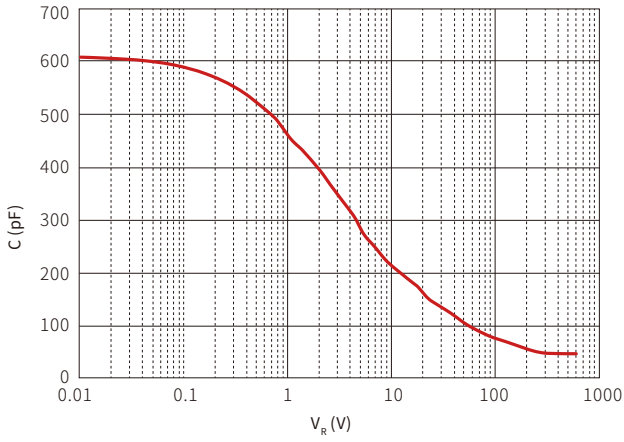


Fig. 4-Transient Thermal Impedance

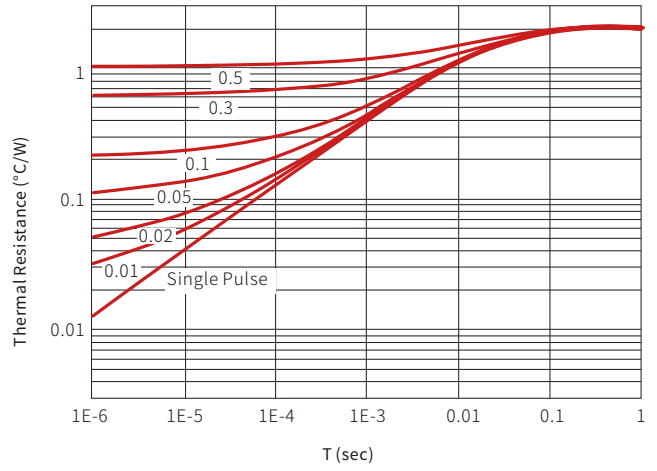


Fig. 5-Capacitance Charge vs. Reverse Voltage

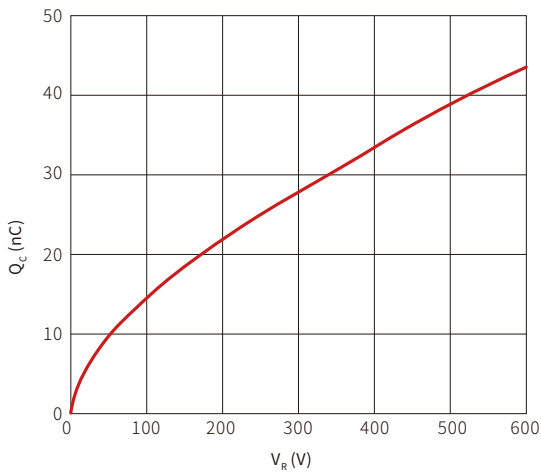


Fig. 6-Capacitance Stored Energy

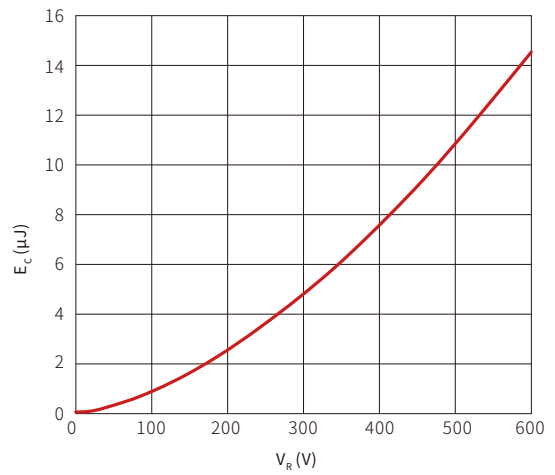


Fig. 7-Power Derating

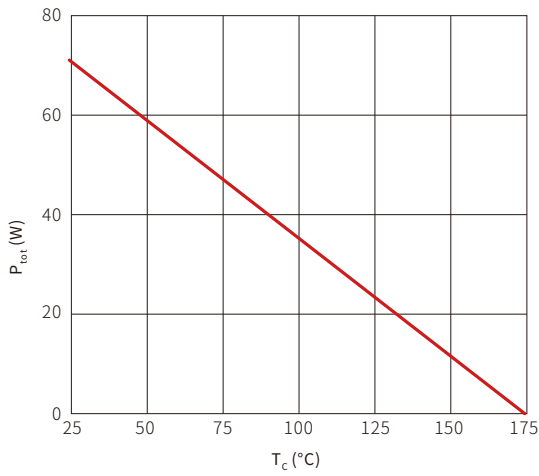
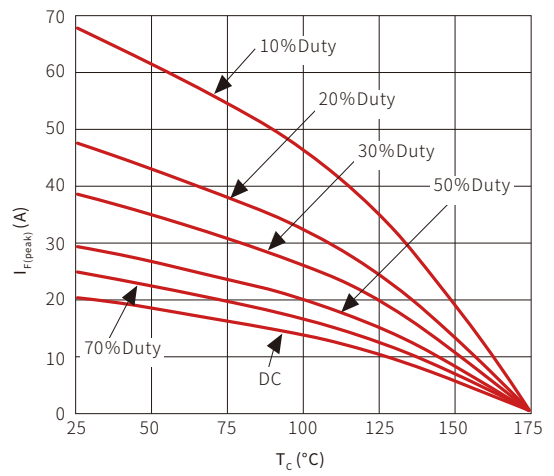
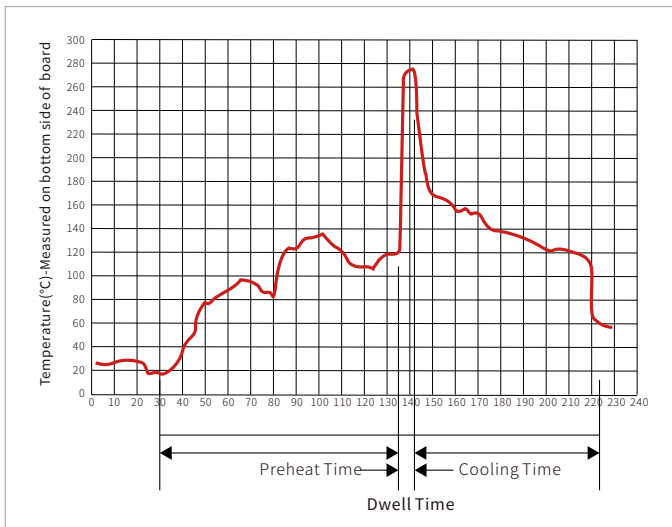


Fig. 8-Current Derating

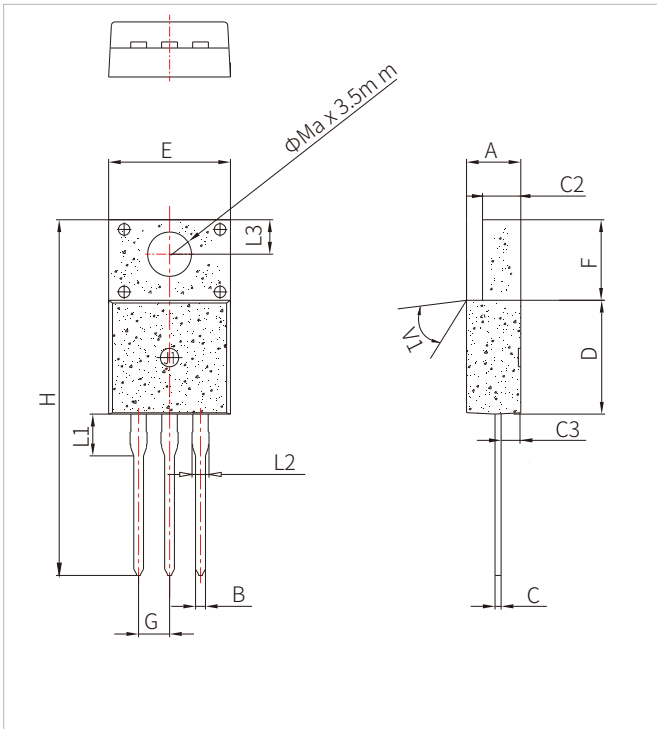


WAVE SOLDERING




Wave Parameter		Lead-free assembly
Pre Heat	Temperature Min	100°C
	Temperature Max	150°C
	Time(min to max)	60 – 180 secs
Solder pot Temperature		280°C Max
Solder Dwell Time		2-5 seconds

TO-220F PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.90	0.173		0.193
B	0.74	0.80	0.83	0.029		0.033
C	0.45		0.75	0.018		0.030
C2	2.40		2.70	0.094		0.106
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.70		10.4	0.382		0.409
F	6.40		7.00	0.252		0.276
G		2.54			0.1	
H	28.0		30.0	1.102		1.181
L1		3.55			0.140	
L2	1.14		1.70	0.045		0.067
L3		3.30			0.130	
V1		45°			45°	

ORDERING INFORMATION

Part Number	Component Package	Marking	QTY/Tube	QTY/Box	QTY/Carton
SCS10A65FA1	TO-220F	 10A65 XXXX	50PCS	1000PCS	5000PCS

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By QR Code

Website



Wechat

To find your local partner within Semiware' s global website: www.semiware.com

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