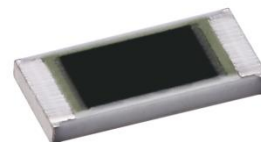


Features:

- YAG laser user-trimmable in circuit
- Available in a variety of pre-trim tolerance ranges
- TCR of ± 200 ppm/ $^{\circ}\text{C}$
- RoHS compliant, REACH compliant, and halogen free

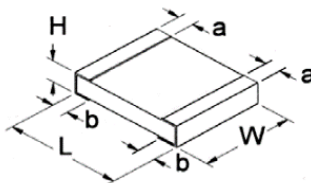


Electrical Specifications

Type/Code	Power Rating (W) @ 70°C	Maximum Working Voltage (V) ⁽¹⁾	Maximum Overload Voltage (V)	TCR (ppm/°C)	Ohmic Range (Ω)
FCR0402	0.063	50	100	± 200	10 - 1M
FCR0603	0.1		100		
FCR0805	0.125	200			
FCR1206	0.25	200	400		
FCR1210	0.33				
FCR2010	0.75				
FCR2512	1				

(1) Lesser of $\sqrt{P \cdot R}$ or maximum working voltage.

Mechanical Specifications



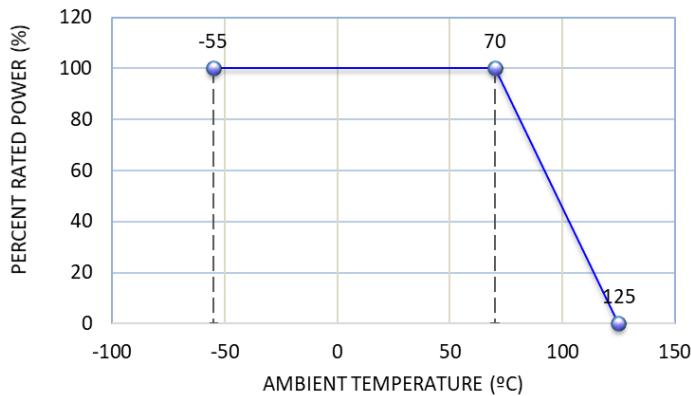
Type/Code	L Body Length	W Body Width	H Body Height	a Top Termination	b Bottom Termination	Unit
FCR0402	0.039 \pm 0.002	0.020 \pm 0.002	0.014 \pm 0.002	0.008 \pm 0.004	0.010 \pm 0.004	inches
	1.00 \pm 0.05	0.50 \pm 0.05	0.35 \pm 0.05	0.20 \pm 0.10	0.25 \pm 0.10	mm
FCR0603	0.063 \pm 0.006	0.031 \pm 0.006	0.018 \pm 0.004	0.012 \pm 0.008	0.012 \pm 0.008	inches
	1.60 \pm 0.15	0.80 \pm 0.15	0.45 \pm 0.10	0.30 \pm 0.20	0.30 \pm 0.20	mm
FCR0805	0.079 \pm 0.008	0.049 \pm 0.004	0.020 \pm 0.004	0.016 \pm 0.008	0.016 \pm 0.008	inches
	2.00 \pm 0.20	1.25 \pm 0.10	0.50 \pm 0.10	0.40 \pm 0.20	0.40 \pm 0.20	mm
FCR1206	0.126 \pm 0.010	0.063 \pm 0.010	0.024 \pm 0.004	0.020 \pm 0.010	0.020 \pm 0.012	inches
	3.20 \pm 0.20	1.60 \pm 0.15	0.60 \pm 0.10	0.50 \pm 0.25	0.50 \pm 0.30	mm
FCR1210	0.126 \pm 0.008	0.098 \pm 0.008	0.024 \pm 0.004	0.020 \pm 0.010	0.020 \pm 0.008	inches
	3.20 \pm 0.20	2.50 \pm 0.20	0.60 \pm 0.10	0.50 \pm 0.25	0.50 \pm 0.20	mm
FCR2010	0.197 \pm 0.006	0.098 \pm 0.006	0.024 \pm 0.004	0.024 \pm 0.010	0.024 \pm 0.010	inches
	5.00 \pm 0.15	2.50 \pm 0.15	0.60 \pm 0.10	0.60 \pm 0.25	0.60 \pm 0.25	mm
FCR2512	0.248 \pm 0.008	0.126 \pm 0.008	0.024 \pm 0.004	0.028 \pm 0.008	0.028 \pm 0.008	inches
	6.30 \pm 0.20	3.20 \pm 0.20	0.60 \pm 0.10	0.70 \pm 0.20	0.70 \pm 0.20	mm

Performance Characteristics

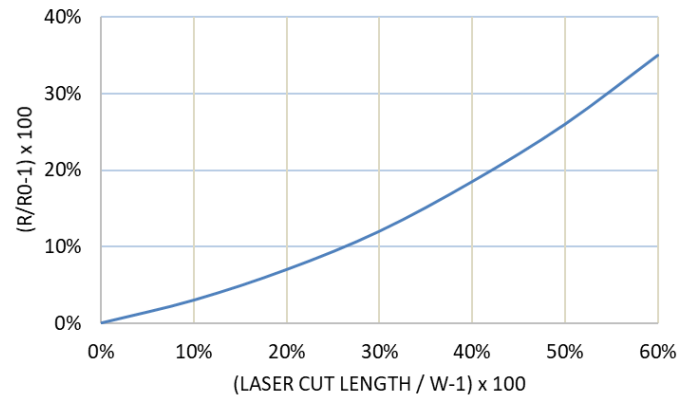
Test	Test Results (JIS C 5202)
Load Life in Moisture	$\pm 3\%$
Temperature Cycle	$\pm 1\%$
Load Life	$\pm 3\%$
Resistance to Solder Heat	$\pm 1\%$
Terminal Adhesion	$\pm 1\%$
Short Time Overload	$\pm 2\%$

Operating Temperature Range: -55°C to +125°C

Power Derating Curve:



Trimming Ration Curve:



Recommended Solder Profile

This information is intended as a reference for solder profiles for Stackpole resistive components. These profiles should be compatible with most soldering processes. These are only recommendations. Actual numbers will depend on board density, geometry, packages used, etc., especially those cells labeled with “**”.

100% Matte Tin / RoHS Compliant Terminations

Soldering iron recommended temperatures: 330°C to 350°C with minimum duration.
Maximum number of reflow cycles: 3.

Wave Soldering

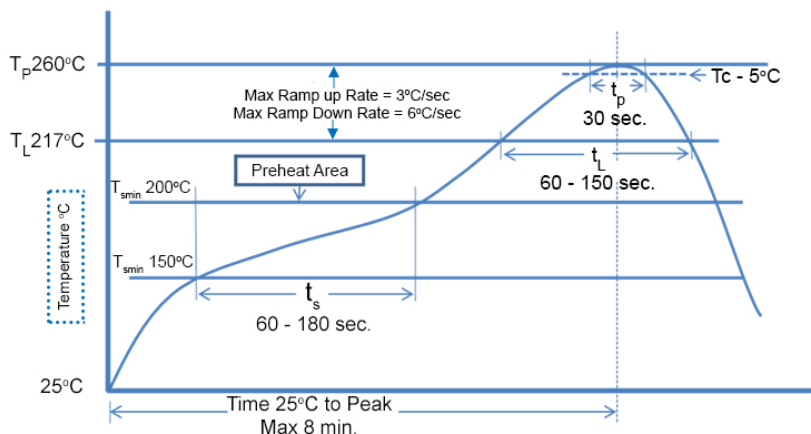
Description	Maximum	Recommended	Minimum
Preheat Time	80 seconds	70 seconds	60 seconds
Temperature Diff.	140°C	120°C	100°C
Solder Temp.	260°C	250°C	240°C
Dwell Time at Max	10 seconds	5 seconds	*
Ramp DN (°C/sec)	N/A	N/A	N/A

Temperature Diff. = Difference between final preheat stage and soldering stage.

Convection IR Reflow

Description	Maximum	Recommended	Minimum
Ramp Up (°C/sec)	3°C/sec	2°C/sec	*
Dwell Time > 217°C	150 seconds	90 seconds	60 seconds
Solder Temp.	260°C	245°C	*
Dwell Time at Max.	30 seconds	15 seconds	10 seconds
Ramp DN (°C/sec)	6°C/sec	3°C/sec	*

Recommended Lead Free Resistor Reflow Profile



RoHS Compliance

Stackpole Electronics has joined the worldwide effort to reduce the amount of lead in electronic components and to meet the various regulatory requirements now prevalent, such as the European Union's directive regarding "Restrictions on Hazardous Substances" (RoHS 3). As part of this ongoing program, we periodically update this document with the status regarding the availability of our compliant components. All our standard part numbers are compliant to EU Directive 2011/65/EU of the European Parliament as amended by Directive (EU) 2015/863/EU as regards the list of restricted substances.

RoHS Compliance Status

Standard Product Series	Description	Package / Termination Type	Standard Series RoHS Compliant	Lead-Free Termination Composition	Lead-Free Mfg. Effective Date (Std Product Series)	Lead-Free Effective Date Code (YY/WW)
FCR	Trimmable Thick Film Surface Mount Chip Resistor	SMD	YES(1)	100% Matte Sn over Ni	Jan-04	04/01

Note (1): RoHS Compliant by means of exemption 7c-I.

"Conflict Metals" Commitment

We at Stackpole Electronics, Inc. are joined with our industry in opposing the use of metals mined in the "conflict region" of the eastern Democratic Republic of the Congo (DRC) in our products. Recognizing that the supply chain for metals used in the electronics industry is very complex, we work closely with our own suppliers to verify to the extent possible that the materials and products we supply do not contain metals sourced from this conflict region. As such, we are in compliance with the requirements of Dodd-Frank Act regarding Conflict Minerals.

Compliance to "REACH"

We certify that all passive components supplied by Stackpole Electronics, Inc. are SVHC (Substances of Very High Concern) free and compliant with the requirements of EU Directive 1907/2006/EC, "The Registration, Evaluation, Authorization and Restriction of Chemicals", otherwise referred to as REACH. Contact us for complete list of REACH Substance Candidate List.

Environmental Policy

It is the policy of Stackpole Electronics, Inc. (SEI) to protect the environment in all localities in which we operate. We continually strive to improve our effect on the environment. We observe all applicable laws and regulations regarding the protection of our environment and all requests related to the environment to which we have agreed. We are committed to the prevention of all forms of pollution.

How to Order

F	C	R	0	8	0	5	K	T	4	7	K	0
Product Series		Size		Tolerance			Packaging				Resistance Value	
FCR	Trimmable	Code	W	Code	Tol	Value	Code	Description	Size	Quantity	Four characters with the multiplier used as the decimal holder.	
		0402	0.063	K	±10	E24	T	7" Reel - Paper Tape	0402	10000		
		0603	0.1	L	±15				0603, 0805	5000		
		0805	0.125	M	±20			7" Reel - Plastic Tape	1206, 1210	4000		
		1206	0.25	N	±30				2010, 2512			
		1210	0.33	S	0 ~ -5%							
		2010	0.75	U	0 ~ -10%							
		2512	1	V	0 ~ -20%							
				W	0 ~ -30%							
											10 ohm = 10R0 10 Kohm = 10K0 1 Mohm = 1M00	

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[SEI Stackpole:](#)

FCR0603MT100R	FCR1206KT4M70	FCR1206KT560K	FCR1206MT4K70	FCR1206WT9K10	FCR1210KT10R0
FCR1210UT1K50	FCR1206KT1K50	FCR1210NT47R0	FCR0603MT10K0	FCR1206MT240K	FCR1206MT2K20
FCR2010KT33R0	FCR1206MT300R	FCR2010KT15R0	FCR1206KT5M10	FCR1206KT620K	FCR1210KT10K0
FCR2010KT680R	FCR1206LT330K	FCR1210KT5K60	FCR1210LT15K0	FCR1210LT4K70	FCR1206KT2K20
FCR1206LT100R	FCR1206MT22K0	FCR1210MT5K60	FCR1206LT5K60	FCR1206NT39K0	FCR0402MT2R40
FCR0805NT27K0	FCR1206NT15K0	FCR2512KT10R0	FCR1206LT75K0	FCR1210LT5K60	FCR1210MT680R
FCR1206LT240K	FCR1206NT7K50	FCR1210KT18K0	FCR1206NT9K10	FCR1210KT1K50	FCR1206KT120R
FCR1206KT1K00	FCR1206NT47K0	FCR0603KT10K0	FCR0805MT100R	FCR1206NT16K0	FCR0603MT150R
FCR1210KT100R	FCR1206KT180R	FCR1206KT240K	FCR1206KT390R	FCR1206LT10K0	FCR1206NT5K10
FCR1210KT2K20	FCR1206KT100R	FCR1206LT470R	FCR1206NT22K0	FCR1206NT43K0	FCR1210LT10K0
FCR1210LT33K0	FCR1206LT240R	FCR0603MT68R0	FCR0603KT68R0	FCR0805KT10K0	FCR1206MT100R
FCR1206NT11K0	FCR2512KT47R0	FCR0603KT10R0	FCR0805KT470R	FCR1206KT470R	FCR1206LT200R
FCR1206LT8K20	FCR1206MT560R	FCR1206NT82K0	FCR1206NT18K0	FCR1210KT1K00	