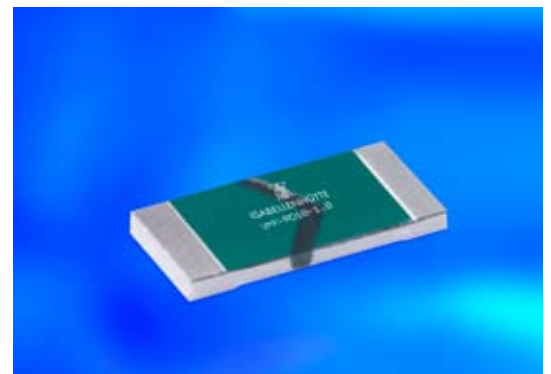


ISA-PLAN® - SMD Präzisionswiderstände / SMD precision resistors

TECHNISCHE DATEN / TECHNICAL DATA		
Widerstandswerte	Resistance values	5 mOhm - 1 Ohm
Toleranz	Tolerance	1 %, 2 %, 5%
Temperaturkoeffizient	Temperature coefficient (tcr)	< 20 ppm/K (20 °C - 60 °C)
Temperaturbereich	Applicable temperature range	-55 °C to +170 °C
Belastbarkeit	Load capacity	2 W
Innerer Widerstand (R_{thi})	Internal heat resistance (R_{thi})	< 30 K/W
Isolationsspannung	Dielectric withstanding voltage	200 V
Induktivität ($R < 20$ m Ohm)	Inductance	< 2 nH
Stabilität (Nennlast) Abweichung T_K = Kontaktstellentemperatur Stability (nominal load) deviation T_K = Terminal temperature		< 0.5 % nach/after 2000 h ($T_K = 70$ °C) < 0.7 % nach/after 2000 h ($T_K = 110$ °C)

MERKMALE / FEATURES

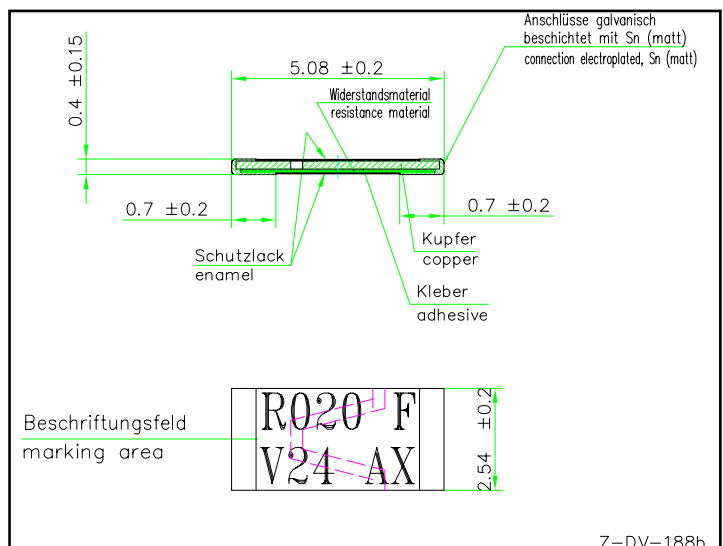
- 2 Watt Dauerleistung bei 70 °C
- 2 Watt permanent power at 70 °C
- Dauerströme bis 20 A (5 mOhm)
- Constant current up to 20 Amps (5 mOhm)
- Kleine Baugröße (2010)
- Small size (2010)
- Sehr hohe Pulsbelastbarkeit
- High pulse power rating
- Sehr gute Langzeitstabilität
- Excellent long term stability
- Bauteilemontage: Reflow-, und IR-Löten
- Mounting: reflow-, and infrared soldering
- AEC Q 200 in Bearbeitung
- AEC Q 200 in process



Bauform/Size 2010

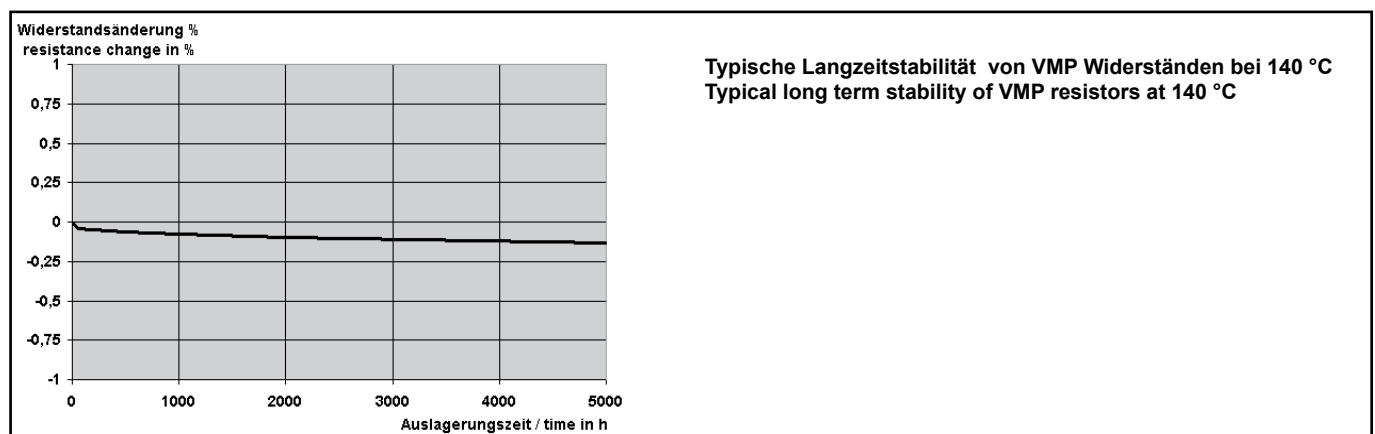
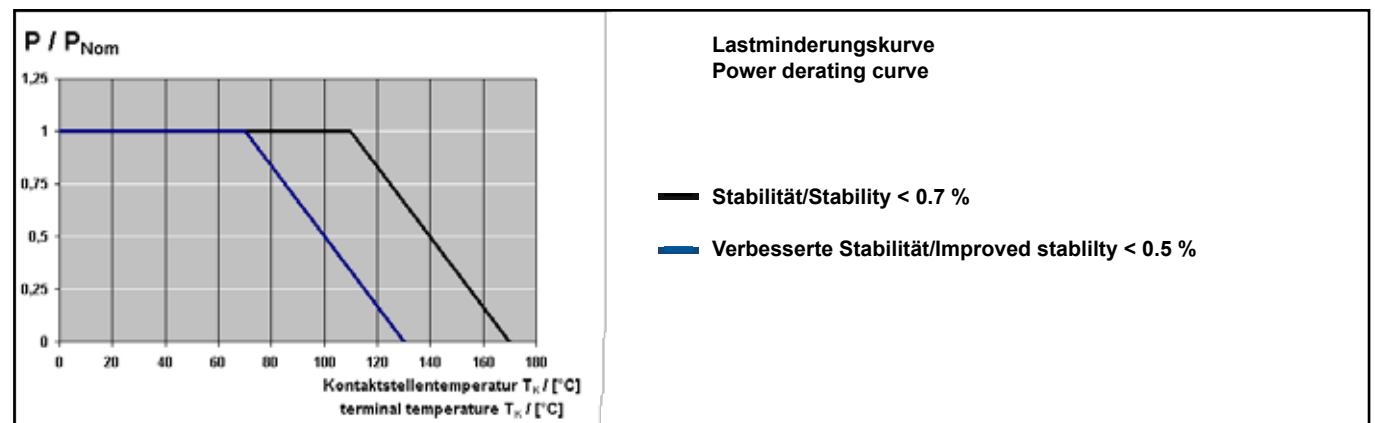
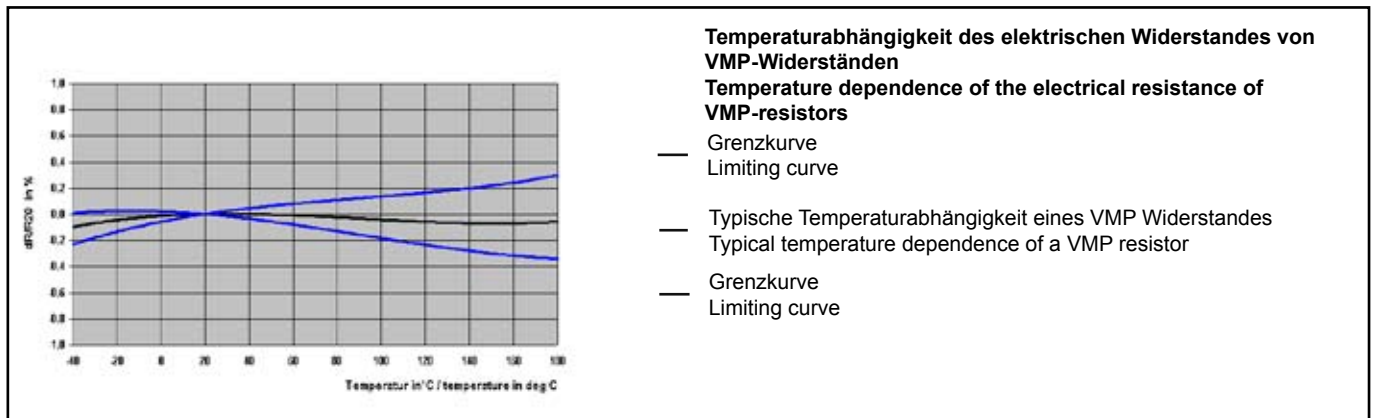
APPLIKATIONEN / APPLICATION

- Messwiderstand für Leistungshybride
- Current sensor for power hybrid applications
- Steuergeräte in der Automobiltechnik
- Control systems for the automotive market
- Leistungsmodule
- Power modules
- Frequenzumrichter
- frequency converters
- Schaltnetzteile
- Switch mode power supplies

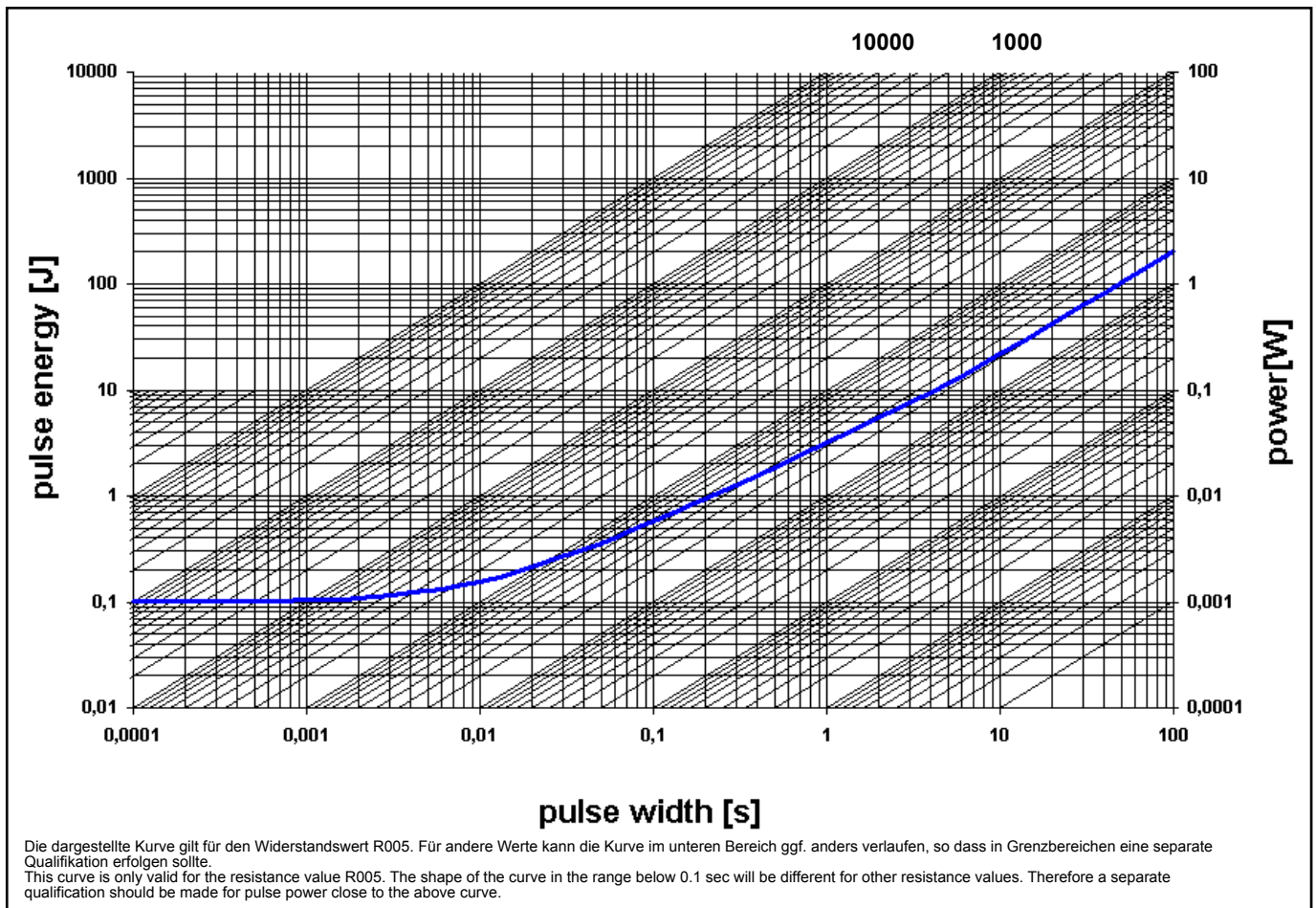


Z-DV-188b

TK, Lastminderung und Langzeitstabilität / TCR, power derating and long term stability



Grenzkurve für maximale Pulsenergie bzw. Pulsleistung für Dauerbetrieb Maximum puls energy resp. pulse power for continous operation



Spezifikation/Specification AEC Q 200

Parameters	Test Conditions	Specified values	Typical test data
Maximum Temperature for full power operation	110 °C	110 °C	
Working Temperature	-55 to 170 °C	-55 to 170 °C	
Thermal Shock	MIL-STD-202 method 107-B1	±0.1 %	±0.05%
Solderability	MIL-STD-202 method 208	> 95 % coverage	
Resistance to Solvents	MIL-STD-202 method 215, 2.1a, 2.1d	no damage	
Low Temperature Storage and Operation	MIL-STD-26E	±0.1 %	±0.02
Resistance to Soldering Heat	MIL-STD-202 method 210	±0.1 %	±0.05
Moisture Resistance	MIL-STD-202 method 106	±0.1 %	±0.05
Mechanical shock	MIL-STD-202 method 213-A	±0.1 %	±0.02
Vibration, High Frequency	MIL-STD-202 method 204-B	±0.2 %	±0.05
Operational Life	MIL-STD-26E	±0.7 %	±0.5
High Temperature Exposure	MIL-STD-202 method 108-F	±0.5 %	±0.3
High Temperature Exposure	140 °C, 2000 h	±0.3 %	±0.1
Current Noise	MIL-STD-202 method 308	n. a. for R< 10hm	
Voltage Coefficient (%/V)	MIL-STD-202 method 309	linearity error less than 120dB	
Resistance Temperature Characteristic	MIL-STD-202 method 304 (20-60°C)	<20 ppm/K	10 ppm/K
Thermal EMF	0 - 100 °C	2 µV/ °K max.	0.5µV/K
Frequency Characteristic (R<20mOhm)	inductance	< 2 nH	< 0.5