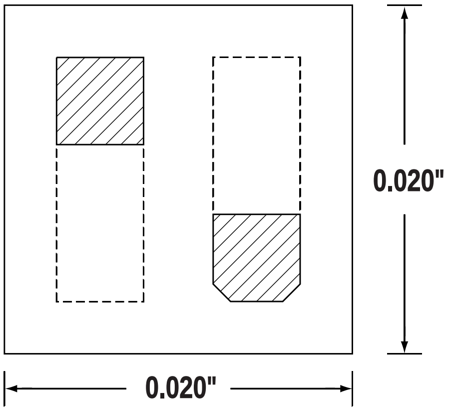
THIN FILM BACK CONTACT RESISTORS

MSBC SERIES



------ Minimum bonding area
for < 100 Ohm Resistance.

The MSBC series back contact chip resistor offers a space-saving design in a 0.020" x 0.020" size that requires only one wire bond. The chip backside provides the other contact with eutectic or conductive epoxy attachment to the substrate. Wire bonding is made to the notched pad on top of the chip; the rectangular pad is a contact via to the backside connection. MSBC's offer the high stability, low noise, and low T.C.R. of thin film while providing greater flexibility in hybrid designs.

MECHANICAL DATA

SIZE	0.020" x 0.020" x 0.010" (±0.003")
SUBSTRATE	SILICON
RESISTOR	TANTALUM NITRIDE
BOND PADS	15,000 Å ALUMINUM TYPICAL (NOTCHED BOND PAD INDICATES WIRE BOND LOCATION)
BACKSIDE SURFACE	GOLD; Suitable for eutectic or conductive epoxy bonding

ELECTRICAL DATA

RESISTANCE RANGE	5Ω TO 1.5MΩ
TOLERANCES	0.05%, 0.1%, 0.25%, 0.5% 1%, 2%, 5%, 10% (RESISTOR VALUE DEPENDENT)
T.C.R.	±250ppm STANDARD; ±100ppm Available ≥ 500Ω, ≤ 250KΩ

SERIES DATA

CURRENT NOISE	-35dB MAX. 100Ω TO 250KΩ TYPICAL -20dB MAX. < 100Ω OR > 250KΩ
DIELECTRIC BREAKDOWN	400 V MIN.
INSULATION RESISTANCE	$10^{12}\Omega$ MIN.
OPERATING VOLTAGE	100 V MAX.
POWER RATING	250 mW TOTAL (70°C DERATED LINEARLY TO 150°C) $P = E^2/R$
SHORT TERM OVERLOAD	5X RATED POWER, 25°C, 5 SEC., ±0.25% MAX. ΔR/R: ±0.1% MSI TYPICAL
HIGH TEMP EXPOSURE	150°C, 100 HRS., ±0.25% MAX. ΔR/R: ±0.03% MSI TYPICAL
THERMAL SHOCK	MIL-STD 202, METHOD 107F, ±0.25% MAX. ΔR/R: ±0.1% MSI TYPICAL
MOISTURE RESISTANCE	MIL-STD 202, METHOD 106, ±0.5% MAX. ΔR/R: ±0.1% MSI TYPICAL
STABILITY	1000 HRS., 70°C, 100% power, ±0.5% MAX. ΔR/R: ±0.1% MSI TYPICAL
OPERATING TEMP RANGE	-55°C TO +125°C
STRAY DISTRIBUTED CAPACITANCE	2 pf

PART NUMBER DESIGNATION

MSBC 2	X	X	—	XXXXX	X	—	X
SERIES	SUBSTRATE	RESISTIVE FILM		OHMIC VALUE	TOLERANCE		OPTION
	S = Silicon	T = Tantalum Nitride		5-Digit Number: 1st 4 Digits Are Significant With "R" As Decimal Point When required. 5th Digit Represents Number of Zeros.	Q = 0.05% ** B = 0.10% ** C = 0.25% D = 0.5% F = 1% G = 2% J = 5% K = 10%		E = Aluminum Bond Pads Std. F = ±100ppm/°C

EXAMPLES: MSBC 2ST-10001F-E = 10KΩ, ±1% STANDARD T.C.R.

** Consult sales for available values

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