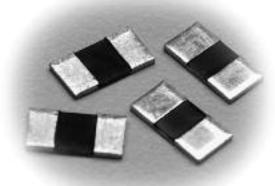




## metal plate current sense resistor



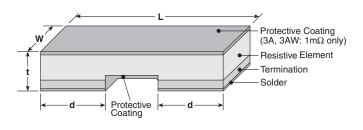
12/17/12



## features

- Ultra-low TCR (+75ppm/°C) available
- Metal alloy: superior corrosion and heat resistance
- Applications include current sensing, voltage division and pulse applications
- Ultra low resistance  $(1m\Omega 20m\Omega)$
- Products with lead-free terminations meet EU RoHS and China RoHS requirements
- AEC-Q200 Qualified

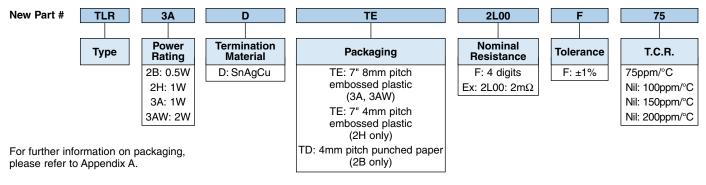
## dimensions and construction



Size		<b>Dimensions</b> inches ( <i>mm</i> )					
Code	Resistance	L	W	d	t		
TLR2B	2m,3m,4m,5m,6m, 7m,8m,9m,10m,11m, 12m,13m,15m, 16m,18m,20m	.126±.008 (3.20±0.20)	.063±.008 (1.60±0.20)	.020±.008 (0.50±0.20)	.024±.008 (0.60±0.20)		
TLR2H	1mΩ		.100±.008 (2.50±0.20)	.071±.008 (1.80±0.20)	.026±.008 (0.65±0.20)		
	$2m\Omega$ - $6m\Omega$	.200±.008 (5.00±0.20)		.060±.008 (1.50±0.20)	.024±.008 (0.60±0.20)		
	$7m\Omega$ - $10m\Omega$			.020±.008 (0.50±0.20)			
TLR3A	$1m\Omega$		. <b>125±.01</b> (3.18±0.25)	.087±.01 (2.20±0.25)			
	2mΩ	.25±.01		.047±.01 (1.20±0.25)	.024±.01 (0.62±0.25)		
	3mΩ	(6.35±0.25)		.073±.01 (1.85±0.25)			
	4mΩ			.047±.01 (1.20±0.25)			
TLR3AW	1mΩ - 4mΩ		.125±.01 (3.18±0.25)	.087±.01 (2.20±0.25)			
	$5m\Omega$ - $8m\Omega$	.25±.01 (6.35±0.25)		.047±.01 (1.20±0.25)	.024±.01 (0.60±0.25)		
	9m $\Omega$ , 10m $\Omega$			.030±.01 (0.77±0.25)			

# ordering information

46



Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.



resistors

#### metal plate current sense resistor

### applications and ratings

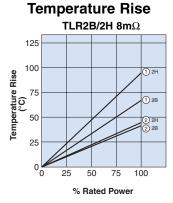
Part Designation	Power Rating @ 70°C	T.C.R. (ppm/°C) Max.**	Standard Resistance (Ω)	Resistance Tolerance	Rated Ambient Temperature	Terminal Temperature	Operating Temperature Range
TLR2B	1/2W (.5W)	±75	2m,3m,4m,5m,6m,7m, 8m,9m,10m,11m,12m, 13m,15m,16m,18m,20m	F: ±1%	+70°C		-65°C to +155°C
TLR2H	1W	±75	1m,2m,3m,4m,5m, 6m,7m,8m,9m,10m	F: ±1%	+70°C	—	-65°C to +155°C
TLR3A	1W	±150 ±200	1m, 2m 3m, 4m	F: ±1%	+70°C		-65°C to +170°C
TLR3AW	2W	±75	*3m,4m,5m 6m,7m,8m,9m,10m	F: ±1%	+70°C		-65°C to +155°C
		±150	1m, 2m***	F: ±1%			

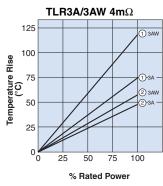
\* 1mΩ, 2mΩ: Please contact factory for availability \*\* Please contact factory for T.C.R.: ±50ppm/°C \*\*\* Contact factory for values less than 1mΩ

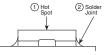
## environmental applications

**Derating Curve** TLR2B/2H/3A/3AW 100 3/ Т 80 I % Rated Power 60 I 40 I 20 2B, 2H, 3AW 0 -80 **^**-60 -40 -65 0 **^ ^**180 155 170 -20 0 20 40 60 80 100 120 140 70 Ambient Temperature (°C)

For resistors operated at an ambient temperature of  $70^{\circ}$ C or above, a power rating shall be derated in accordance with the above derating curve.







Regarding the temperature rise, the value of the temperature varies per conditions and board for use since the temperature is measured under our measuring conditions.

#### **Performance Characteristics**

	Requirement $\Delta$ R ±%			
Parameter	Limit	Typical	Test Method	
Resistance	Within regulated tolerance	_	25°C	
T.C.R.	Within specified T.C.R.	_	+25°C/+100°C	
Resistance to Solder Heat	±0.5%	±0.3%	260°C ± 5°C, 10 ~ 12 seconds	
Rapid Change of Temperature	±0.5%	±0.4%	-55°C (15 minutes), +150°C (15 minutes), 1000 cycles	
Moisture Resistance	±0.5%	±0.1%	MIL-STD-202, Method 106, 0% power, 7a and 7b not required	
Biased Humidity	±0.5%	±0.1%	85°C ± 2°C, 85% RH, 1000 hours, 10% bias	
Endurance at 70°C	±1.0%	±0.3%	70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle	
High Temperature Exposure	±1.0%	±0.6%	±155°C (2B, 2H, 3AW), ±170°C (3A), 1000 hours	

12/17/12