



SAE J1127 Automotive & Heavy-Duty Starter / Ground Battery Cables

SGR

Rubber Battery Cable

SAE J1127 Type SGR 60 V DC starter and ground flexible EPDM synthetic rubber battery cable



SAE J1127

60 V DC (25 V AC)

-40 to +105 °C

Application

SGR is an extra-flexible SAE J1127 Type SGR starter and ground battery cable engineered for 60 V DC automotive, marine, fleet service booster, and cold-climate off-highway equipment applications. Combining rope-lay finely stranded bare copper conductors with a

Typical uses: Cold-Climate Commercial & Off-Highway Vehicles, Fleet Service Jump-Start & Booster Cables, Battery Bank & Off-Grid Inverter Interconnects

Construction



Cross-section, not to scale

1 Conductor

SAE J1127

2 Tape

SAE J1127

3 Sheath

SAE J1127

Technical data

Typical values

Rated voltage (U0/U)	60 V DC (25 V AC)	Max. operating voltage	60 V DC
Dielectric test voltage	1000 V AC (spark/dielectric test per SAE J1127)	Insulation resistance	SAE J1127 cold bend, oil immersion & dielectric compliance
Operating temperature range	-40 °C to +105 °C	Dynamic / flexing temperature	-40 °C to +105 °C
Max. short-circuit temperature	+200 °C	Min. bend radius (fixed)	4 × D
Min. bend radius (flexing)	6 × D	Max. tensile pulling load	15 N/mm ²
Vibration & mechanical duty	High-flex engine movement & portable booster leads	Flame retardancy	SAE J1127 45° flame test (self-extinguishing)
Oil & fluid resistance	SAE J1127 oil, battery acid & fuel splash resistant	UV, weather & ozone	Weather, ozone, UV & sub-zero cold-flex resistant
Chemical & environmental	Resistant to sulfuric battery acid, engine oil, antifreeze coolant and moisture	Standards	SAE J1127 (2020) — Surface Vehicle Standard — Low Voltage Battery Cable (Type SGR)

Sizes

8 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Designation	Size / Configuration	Stranding · Wall	Nom. OD mm	Copper kg/km	Total mass ≈ kg/km	Min. bend R mm
SGR size schedule 8 sizes						
☐ SGR 6 AWG (13.3 mm ²)	6 AWG (13.3 mm ²)	133/27 · 2.1 mm	8.70	92.8	160.0	52.2
☐ SGR 4 AWG (21.2 mm ²)	4 AWG (21.2 mm ²)	133/25 · 2.4 mm	10.60	133.4	230.0	63.6
☐ SGR 2 AWG (33.6 mm ²)	2 AWG (33.6 mm ²)	259/26 · 2.5 mm	12.50	197.2	340.0	75.0
☐ SGR 1 AWG (42.4 mm ²)	1 AWG (42.4 mm ²)	259/25 · 2.5 mm	13.60	242.4	418.0	81.6
☐ SGR 1/0 AWG (53.5 mm ²)	1/0 AWG (53.5 mm ²)	259/24 · 2.5 mm	14.90	297.0	512.0	89.4
☐ SGR 2/0 AWG (67.4 mm ²)	2/0 AWG (67.4 mm ²)	259/23 · 2.5 mm	16.30	366.6	632.0	97.8
☐ SGR 3/0 AWG (85.0 mm ²)	3/0 AWG (85.0 mm ²)	259/22 · 2.5 mm	18.00	455.3	785.0	108.0
☐ SGR 4/0 AWG (107.2 mm ²)	4/0 AWG (107.2 mm ²)	413/23 · 2.5 mm	19.80	567.2	978.0	118.8

– Dimensions and tolerances conform to SAE J1127.

Electrical data

8 sizes

Size / Configuration	Max. DC R @ 20 °C Ω/km	Current in air A	Installed / duty A
6 AWG (13.3 mm ²)	1.320	105	84
4 AWG (21.2 mm ²)	0.840	160	128
2 AWG (33.6 mm ²)	0.530	210	168
1 AWG (42.4 mm ²)	0.420	245	196
1/0 AWG (53.5 mm ²)	0.330	285	228
2/0 AWG (67.4 mm ²)	0.260	330	264
3/0 AWG (85.0 mm ²)	0.210	385	308
4/0 AWG (107.2 mm ²)	0.170	445	356

– Reference ampacities at +30 °C ambient; apply duty-cycle or grouping correction factors per standard.

Standards and approvals

- ✓ SAE J1127 Type SGR
- ✓ ISO 6722-1 (2011)
- ✓ RoHS 3 & REACH Compliant

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

+86 185 9591 3361

Email

info@tebaoflex.com

Web

tebaoflex.com/cables/sgr-rubber-battery-cable



Typical values for this cable type, based on SAE J1127. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.