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IRIDIUM SAVER

The Iridium Spark Plug for Gas Engines

**"I've saved thousands
on maintenance costs
using DENSO plugs"**

*Jon Jaunke, Owner
Cypress Engine Accessories
Austin, Texas*



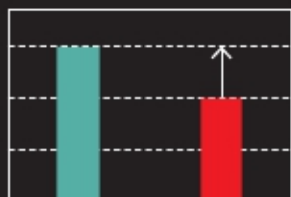
Iridium Saver's Key To High Reliability

Highly Reliable Monolithic Resistor

The Iridium Saver Plug guarantees high reliability for withstanding high combustion pressures by incorporating a stress resistant monolithic resistor that adheres to the resistor glass in the high temperature furnace. In addition, this eliminates interference to electronic equipment from high energy coil noise.



TRANSVERSE RUPTURE STRENGTH



IRIDIUM SAVER DDI

CONVENTIONAL PLUG

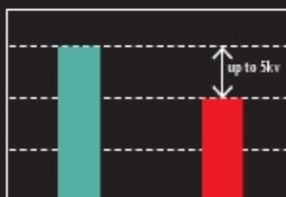
ELECTRICAL BREAKDOWN VOLTAGE (KV)



Newly Developed Ceramics



Conventional Ceramics



IRIDIUM SAVER DDI

CONVENTIONAL PLUG

High Dielectric Ceramics

Newly developed ceramics with finer grain, molded-in higher pressure and higher density prevents electrical breakdown of insulator.

Special Nickel Plating With Better Corrosive Resistance

Better corrosive resistance for condensed acid water.

Exposure Test By Acid Steam Atmosphere

Test length: 700 hours
Temperature: 90°C
Acid Water: pH=2

NORMAL PLUG



Analysed by DENSO

IRIDIUM SAVER



Analysed by DENSO

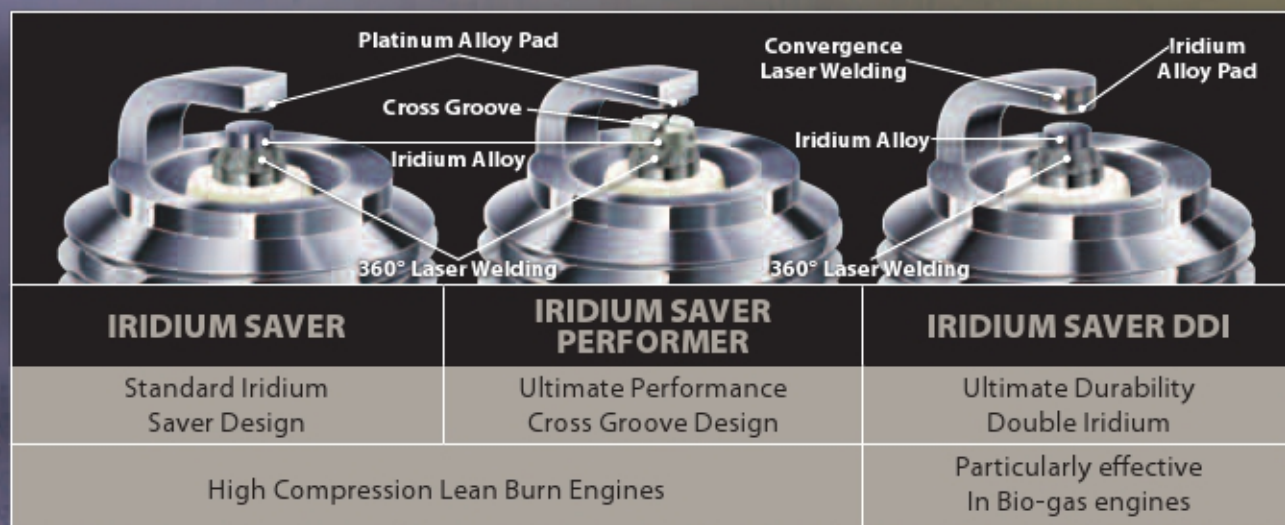
“ Preventive Maintenance intervals are typically 90 days, and are driven by the need to replace the spark plugs before failure occurs. Still, at least 10% of field units don't even make it to 90 days before misfiring occurs, because most people use low-quality plugs.

When a unit goes down in the field, you're not pumping gas, and some units make \$4,000 to \$5,000 per hour. It can take up to 6 hours to reach the unit, replace the plugs, and bring it back online. With labor costs around \$80/ per hr in the U.S., the total cost of a downed unit in the field can run as high as \$30,000.

Some guys using DENSO plugs have been able to extend their PM's to 120 days, and even re-use the same plugs for up to a year. Any way you look at it, the savings generated by using DENSO makes the cost of the spark plug itself insignificant.”

Jon Jaunke, Owner
Cypress Engine Accessories
Austin, Texas

Iridium Saver's Key To Long Plug Life



Cross Grove Design (M18 mm Plug)

Four small electrodes create a cross groove which improves sparking performance and suppresses dispersion in voltage value, for an outstanding decrease in required voltage.

Unique Iridium Alloy

Iridium alloy – developed and patented by DENSO – offers a high welding point which dramatically improves wear resistance compared to other Iridium plugs.

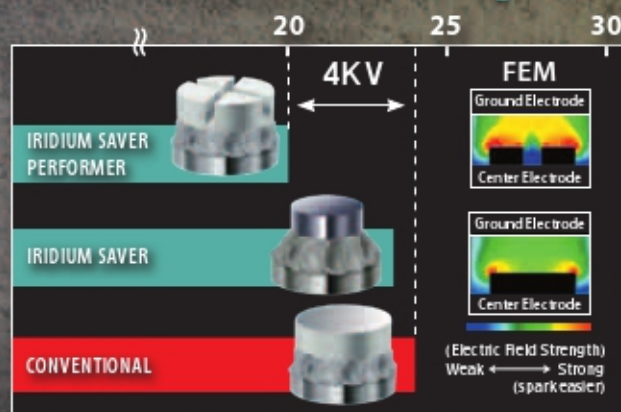
360° Laser Welding

360° laser welding is used to create a seal so reliable the electrode resists wear even under the most extreme engine conditions.

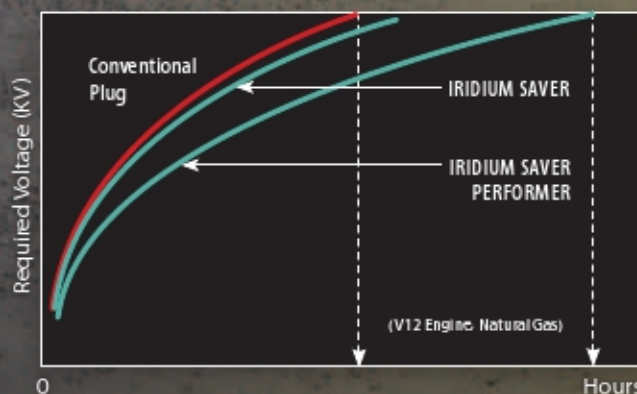
Proving Longer Life

Using the same laser welding process as the Iridium Power spark plug, DENSO designed a long life spark plug. Using its patented Iridium alloy, DENSO was able to shrink the center electrode to 0.7mm, dramatically improving ignitability and longevity.

The Cross Groove Design



Ignition Voltage Limit



Iridium Saver Series Application Information

ENGINE MAKER / TYPES	IRIDIUM SAVER	IRIDIUM SAVER PERFORMER	IRIDIUM SAVER DDI	GAP (INCH)
ARIEL				
JGS-1 High Tension	GE3-1		GE3-5A	0.30mm (.012)
JGS-1 Low Tension	GE3-1		GE3-5A	0.30mm (.012)
ARROWS				
VRG220, VRG330	GE3-1		GE3-5A	0.30mm (.012)
BERNARD				
All Models	GN3-1A			0.30mm (.012)
CASE				
A284, A377, 159G Natural & LP Gas		GT3-1		0.30mm (.012)
188G, 301G, 377G Natural & LP Gas		GT3-1		0.30mm (.012)
CATERPILLAR				
3306, G333 1/2" Reach	GN3-1A			0.30mm (.012)
3306, G333 3/4" Reach, G343, G3304,	GE3-1		GE3-5A	0.30mm (.012)
G3400 series	GE3-1		GE3-5A	0.30mm (.012)
G342, G353, G375, G379	GN3-1A			0.30mm (.012)
G3500 (nom B, C and E series)	GI3-3	GI3-1	GI3-5	0.28mm (.011)
G3600 series	GI3-3	GI3-1	GI3-5	0.28mm (.011)
G397, G398, G399	GN3-1A			0.30mm (.012)
CHRYSLER				
Thru 1974 H225, HB-225	GE3-1		GE3-5A	0.30mm (.012)
HB361, HB383, HC361, HT361	GE3-1		GE3-5A	0.30mm (.012)
HB413, HC413, HB170	GE3-1		GE3-5A	0.30mm (.012)
HT413, HB426, HC426, H170	GE3-1		GE3-5A	0.30mm (.012)
IND53, IND56, IND56A	GE3-1		GE3-5A	0.30mm (.012)
IND56, IND56A, LH318	GE3-1		GE3-5A	0.30mm (.012)
H170, HB170, H225, HB225	GE3-1		GE3-5A	0.30mm (.012)
HB361, HB383, HC361, HT361	GE3-1		GE3-5A	0.30mm (.012)
HB413, HC413, HT413, HB426, HC426	GE3-1		GE3-5A	0.30mm (.012)
COOPER-BESSEMER				
ENG, GNG		GT3-1		0.30mm (.012)
GDJ, GMA, GMB, GMC w/G402 Reducing Bushing		GT3-1		0.30mm (.012)
GDT, GFB, GFE, GFK w/G402 Reducing Bushing		GT3-1		0.30mm (.012)
CUMMINS				
6B, 6C, L-10, ISL G	GK3-1A			0.30mm (.012)
GNHC-4, GNH-220, GNH-250 1/2" Reach	GN3-1A			0.30mm (.012)
GV-12450, GM-12-525 3/8" Reach	GN3-1A			0.30mm (.012)
GV-12450, GV-12-525 1/2" Reach	GN3-1A			0.30mm (.012)

ENGINE MAKER / TYPES	IRIDIUM SAVER	IRIDIUM SAVER PERFORMER	IRIDIUM SAVER DDI	GAP (INCH)
No. 173416 5/8" Reach w/N677 Gasket (w/ special adapter)	GE3-1		GE3-5A	0.30mm (.012)
No. 90210035, 90210036 3/4" Reach	GE3-1		GE3-5A	0.30mm (.012)
Q19G, QSV 81-V16, QSV 91-V18	GI3-3	GI3-1	GI3-5	0.28mm (.011)
DAEWOO				
GV222TIC, GE08TIC, GE12TIC, GV180TIC, GV158TIC	GK3-1A		GK3-5A	0.30mm (.012)
DEUTZ MWM				
G620 V-8, TBG616 V-8, TBG616 V-12	GL3-3	GL3-1	GL3-5	0.28mm (.011)
TBG616K V-8K, TBG616K V-12, TBG616K V-16K	GL3-3	GL3-1	GL3-5	0.28mm (.011)
TBG620 V-8, TBG620 V-12, TBG620 V-16	GL3-3	GL3-1	GL3-5	0.28mm (.011)
TBG620K V-12K TBG620K V-16K	GL3-3	GL3-1	GL3-5	0.28mm (.011)
DORMAN				
3DAG, 4DAG, 6DAG, 6QG, D ATG4, 6	GE3-1		GE3-5A	0.30mm (.012)
6LEG	GN3-1A			0.30mm (.012)
6SEG, 8SEG, 12SEG	GE3-1		GE3-5A	0.30mm (.012)
6SETCWG Min Nox	GE3-1		GE3-5A	0.30mm (.012)
6PG, 12PG		GT3-1		0.30mm (.012)
12S, 12SG, 12STCWG, 12STCAG		GT3-1		0.30mm (.012)
FAIRBANKS MORSE				
38D8-1/8 Series		GT3-1		0.30mm (.012)
FORD				
158, 175, 201, 256 cid	GE3-1		GE3-5A	0.30mm (.012)
FUJI-ROBIN				
EC-05, EC-07, FG-14	GN3-1A			0.30mm (.012)
EY-13, EY-18, EY-25, EY-33	GN3-1A			0.30mm (.012)
EY-27, EY-14, EY-40, EC-16	GN3-1A			0.30mm (.012)
EY-44, EY-88, EC-03, EC-04	GN3-1A			0.30mm (.012)
GEMINI				
G26, G35	GN3-1A			0.30mm (.012)
GUASCOR				
FG180, FGLD180, FG240	GI3-3	GI3-1	GI3-5	0.28mm (.011)
FGLD240, FGLD360, FGLD480	GI3-3	GI3-1	GI3-5	0.28mm (.011)
GEJENBACHER				
J612, J616, J620 (1995/9 - BMEP = 16 bar or less)	GI3-3	GI3-1	GI3-5	0.28mm (.011)
GM				
305, 351, 401, 478, 702 Gasoline	GE3-1		GE3-5A	0.30mm (.012)
305, 351, 401, 478, 702 LPG	GE3-1		GE3-5A	0.30mm (.012)
HERCULES				
G4800, GTA4800	GK3-1A			0.30mm (.012)

Iridium Saver Series Application Information

ENGINE MAKER / TYPES	IRIDIUM SAVER	IRIDIUM SAVER PERFORMER	IRIDIUM SAVER DDI	GAP (INCH)
INTERNATIONAL				
C-537, C-605	GE3-1		GE3-5A	0.30mm (.012)
U817, U817B, UT817, UT817B (14mm Heads)	GN3-1A			0.30mm (.012)
JLO - ROCKWELL				
G49, L35, L77, LV298, MM25, MM40	GN3-1A			0.30mm (.012)
GA50 Updated Version, V49	GN3-1A			0.30mm (.012)
JOHN DEERE				
300 Series	GE3-1		GE3-5A	0.30mm (.012)
400, 500 Series Natural & LP Gas		GT3-1		0.30mm (.012)
6076AFN30 (150, 200 H.P.)	GK3-1A		GK3-5A	0.30mm (.012)
6081HFN, 6090HFN	GK3-1A			0.30mm (.012)
J-W POWER				
Superburn Pre-Cell	GE3-1		GE3-5A	0.30mm (.012)
LIEBHERR				
G 924 T	GE3-1		GE3-5A	0.30mm (.012)
G 924 TC	GE3-1		GE3-5A	0.30mm (.012)
G 926 T	GE3-1		GE3-5A	0.30mm (.012)
G 926 TC	GE3-1		GE3-5A	0.30mm (.012)
G 926 TC 40	GE3-1		GE3-5A	0.30mm (.012)
G 9408 TC	GK3-1A		GK3-5A	0.30mm (.012)
G 9408 TC 40	GK3-1A		GK3-5A	0.30mm (.012)
MAN				
E 0824 E 301, E 0824 E 302, E 0826 E301, E 0826 E302,	GE3-1		GE3-5A	0.30mm (.012)
E 2842, E 2842 LE, E 2843 LN, E 2876, E 2866 LUH01	GE3-1		GE3-5A	0.30mm (.012)
E 0834, E0836	GK3-1A			0.30mm (.012)
E 2866 DUH03	GE5-1			0.5mm (.020)
M.E.P. INDUSTRIES				
M.E.P.-6, -8, -10, -12		GT3-1		0.30mm (.012)
MINNEAPOLIS - MOLINE				
NATURAL & LP-GAS 206-4A, 220-4, HD220-4A, M220-A4A		GT3-1		0.30mm (.012)
283-4A, HD504-6A		GT3-1		0.30mm (.012)
336A-4A, HD425-6A, HD504A-6A		GT3-1		0.30mm (.012)
605A-6A, 605B-6A, HD605-6A		GT3-1		0.30mm (.012)
HD800-6A, HD800A-6A, 1210-12A		GT3-1		0.30mm (.012)
PERKINS				
G4-203, G4-236, 900 Series	GE5-1			0.5mm (.020)
4000 Series	GI3-3	GI3-1	GI3-5	0.28mm (.011)

ENGINE MAKER / TYPES	IRIDIUM SAVER	IRIDIUM SAVER PERFORMER	IRIDIUM SAVER DDI	GAP (INCH)
RATHBUN JONES				
Models w/G-402 Reducing Bushing		GT3-1		0.30mm (.012)
ROILINE				
F1500, H2000, H2470 (Light Load)		GT3-1		0.30mm (.012)
F1500, H2000, H2470 (Heavy Load)		GT3-1		0.30mm (.012)
H540, H844, H570, H884		GT3-1		0.30mm (.012)
L3230, L3460, L4000 (Light Load)		GT3-1		0.30mm (.012)
L3230, L3460, L4000 (Heavy Load)		GT3-1		0.30mm (.012)
F1500, F1850, H2000, H2150, H2470		GT3-1		0.30mm (.012)
L3000, L3230, L3460, L4000		GT3-1		0.30mm (.012)
ROTAX				
370cc Normal & Severe Service	GN3-1A			0.30mm (.012)
SACHS				
504 Series, 505 Series, 508, Stamo SL-2	GN3-1A			0.30mm (.012)
SACM				
Model UD30 Thru 1994	GK3-1A		GK3-5A	0.30mm (.012)
Model 175 1996 & up	GK3-1A		GK3-5A	0.30mm (.012)
SUPERIOR				
1706G2, 1712G1	GI3-3	GI3-1	GI3-5	0.28mm (.011)
1980-46 G510 Series		GT3-1		0.30mm (.012)
1980-51 G825 Series		GT3-1		0.30mm (.012)
1979-65 GT825 Series		GT3-1		0.30mm (.012)
1980-79 GTL Series		GT3-1		0.30mm (.012)
1980-61 GT510 Series		GT3-1		0.30mm (.012)
1965-58 GX825 Series		GT3-1		0.30mm (.012)
1980-76 SGT Series		GT3-1		0.30mm (.012)
VOLKSWAGEN				
Models 122, 124A Gasoline, Natural Gas & LPG	GN3-1A			0.30mm (.012)
VOLVO TRUCK				
GH10C, MG9	GE3-1		GE3-5A	0.30mm (.012)
WARTSILA				
Model 175 (1994 -), W220SG	GK3-1A		GK3-5A	0.30mm (.012)
W255G, W285G, W345G, W20V, 345G	GI3-3	GI3-1	GI3-5	0.28mm (.011)
WAUKESHA				
AT Series				
8L-AT25GL / AT27GL (13/16" Reach Heads)	GI3-3	GI3-1	GI3-5	0.28mm (.011)

Iridium Saver Series Application Information

ENGINE MAKER / TYPES	IRIDIUM SAVER	IRIDIUM SAVER PERFORMER	IRIDIUM SAVER DDI	GAP (INCH)
8L-AT25GL/AT27GL (1/2" Reach Heads)		GT3-1		0.30mm (.012)
12V-AT25GL / AT27GL (13/16" Reach Heads)	GI3-3	GI3-1	GI3-5	0.28mm (.011)
12V-AT25GL/AT27GL (1/2" Reach Heads)		GT3-1		0.30mm (.012)
Intermediate Series				
F1905GR		GT3-1		0.30mm (.012)
Natural & LP-Gas / 14mm Heads				
H1077G, H1077GSI, L1616G, L1616GSI	GE3-1		GE3-5A	0.30mm (.012)
VRG220, VRG330	GE3-1		GE3-5A	0.30mm (.012)
VRN265, VRN283, VRN310	GE3-1		GE3-5A	0.30mm (.012)
VGF Series Inline 6				
F18G, F18GL / GLD	GI3-3	GI3-1	GI3-5	0.28mm (.011)
VGF Series Inline 8				
H24G, H24GL / GLD	GI3-3	GI3-1	GI3-5	0.28mm (.011)
VGF Series V-12				
L36GL / GLD	GI3-3	GI3-1	GI3-5	0.28mm (.011)
VGF Series V-16				
P48GL GLD	GI3-3	GI3-1	GI3-5	0.28mm (.011)
VHP Series Inline 6				
2895GL (13/16" Reach Heads)	GI3-3	GI3-1	GI3-5	0.28mm (.011)
3521GL (13/16" Reach Heads)	GI3-3	GI3-1	GI3-5	0.28mm (.011)
2895GL (1/2" Reach Heads)		GT3-1		0.30mm (.012)
3521GL (1/2" Reach Heads)		GT3-1		0.30mm (.012)
F2895G, F2895GSI		GT3-1		0.30mm (.012)
F3521G, F3521GSI		GT3-1		0.30mm (.012)
VHP Series V-12				
L5108GL (13/16" Reach Heads)	GI3-3	GI3-1	GI3-5	0.28mm (.011)
L5790GL (13/16" Reach Heads)	GI3-3	GI3-1	GI3-5	0.28mm (.011)
L7042GL (13/16" Reach Heads)	GI3-3	GI3-1	GI3-5	0.28mm (.011)
L5108G, L5108GSI, L5790G		GT3-1		0.30mm (.012)
L5790GSI, L7042G, L7042GSI		GT3-1		0.30mm (.012)
5108GL (1/2" Reach Heads)		GT3-1		0.30mm (.012)
5790GL (1/2" Reach Heads)		GT3-1		0.30mm (.012)
7042GL (1/2" Reach Heads)		GT3-1		0.30mm (.012)
VHP Series V-16				
P5115GL	GI3-3	GI3-1	GI3-5	0.28mm (.011)
P9390GL (13/16" Reach Heads)	GI3-3	GI3-1	GI3-5	0.28mm (.011)
9390G, P9390GSI		GT3-1		0.30mm (.012)
9390GL (1/2" Reach Heads)		GT3-1		0.30mm (.012)
VSG Series				
F11G, F11GSI / CSID, P2154G, P2154GSI	GE3-1		GE3-5A	0.30mm (.012)

ENGINE MAKER / TYPES	IRIDIUM SAVER	IRIDIUM SAVER PERFORMER	IRIDIUM SAVER DDI	GAP (INCH)
H1077G, H1077GSI, L1616G, L1616GSI	GE3-1		GE3-5A	0.30mm (.012)
VSG Series / 18mm Heads				
F1197GRSI, F1905GRSI, Generator Set		GT3-1		0.30mm (.012)
F2894G, F2894GRSI, F3520G, L5100GR		GT3-1		0.30mm (.012)
L5788GRSI, L7040G		GT3-1		0.30mm (.012)
L5100GRSI, L5788GR		GT3-1		0.30mm (.012)
L7042GSIE, F3521GSIE		GT3-1		0.30mm (.012)
6BZ, 6LRZ, 6LRZB, 6MZA, 6MZR, ICK		GT3-1		0.30mm (.012)
6NK, 6WAK, 6WAKB, NKRBB, WAKR, LRORB		GT3-1		0.30mm (.012)
140GK, 145GK, FC		GT3-1		0.30mm (.012)
180G, 180GB, 180GKB, 185GLB		GT3-1		0.30mm (.012)
190G, 190GLB, 195G, 195GK		GT3-1		0.30mm (.012)
WISCONSIN				
W2-1230 Serial #5996538 & Up	GE3-1		GE3-5A	0.30mm (.012)
W2-1235, W4-2460, W2-1250	GE3-1		GE3-5A	0.30mm (.012)
WISCONSIN - ROBIN				
EY18-3W, EY25W Gasoline	GN3-1A			0.30mm (.012)
EY18W, EY21W, EY27W, EY44W	GN3-1A			0.30mm (.012)
WT-125V, W1-450V	GN3-1A			0.30mm (.012)
W1-145, W1-390, W1-185, W1-340	GN3-1A			0.30mm (.012)
WITTE				
G-260	GN3-1A			0.30mm (.012)
YAMAHA				
AS110	GN3-1A			0.30mm (.012)



Torque

Thread size	Lubricant (on threads)	Recommended torque (cast iron head)	
M14 X 1.25	With lubricant	20 Nm	15 ft-lbs
	Without lubricant	30 Nm	22 ft-lbs
M18 X 1.5	With lubricant	30 Nm	22 ft-lbs
	Without lubricant	45 Nm	33 ft-lbs

Cross Reference

CHAMPION	BERU	STITT	ALTRONIC	IRIDIUM SAVER	IRIDIUM SAVER PERFORMER	IRIDIUM SAVER DDI
RB77WPC / RB77WPCC / KB77WPCC / RB77CC	18GZ 4-77 / 18GZ 6-77 / 18GZ 20		L1863IP	GI3-3	GI3-1	GI3-5
RB75N / RB75PP(*2)	18GZ 6-77-2	RL807LL	L1863B L1863DP			
RB76N(*1) / RB76PP(*1)	18GZ 7(*1)	RL807LL		GI3-3	GI3-1	GI3-5
RB75WPCC	18GZ 5-77 18GZ 5-77-2			GL3-3	GL3-1	GL3-5
RM77N	18GZ33	R807	L1843B	-	GT3-1	-
RM77PP			L1843IP			
RN79G(0.015)	14R-3 CPU / 14-3 CPU / 14R-5 DPU / 14R-4 CDP	R407XL		GE3-1	-	GE3-5A
			J1463DP			
RN79G(0.02)	14R-4 CIU			GE5-1	-	-
RC78PYP(*3)	14FR4 DPUO			GK3-1A	-	GK3-5A
RC78PYP15(*3)	14FR4 DPUO			GK3-1A	-	GK3-5A
RC78WYP15(*3)	14FR-4DIU			GK3-1A	-	GK3-5A
RL85G / RL15B	14R-5 BPU / 14R-4 ADP / 14R-5 BIU	R407L	J1443DP	GN3-1A	-	-

Insulator length of 18GZ series is shorter than GI3-3 and GI3-1.

*1: Insulator length of RB76N and RB76PP, 18GZ7 is shorter than GI3-3 and GI3-1.

*2: Insulator length of RB75PP is longer than GI3-3 and GI3-1. When DENSO spark plugs are used instead of above mentioned, check whether spark plug caps can be used on DENSO spark plugs.

*3: Insulator length of RC78PYP and RC78WYP15 is 5mm longer than GK3-5A, GK3-1A and GK3-3A.

*4: For CNG vehicle.

Specifications

G

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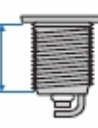
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A


For Gas Engine

Plug Type and Installation Dimension			
Number	Thread	Hex Size	Reach
			
E	M 14 x 1.25	20.8mm	19mm
N			12.7mm
K		16mm	19mm
L	M 18 x 1.5	20.8mm	20.6mm
I		22.2mm	
T			13.8mm

Initial Gap

Number	Normal Value
3	0.3mm
4	0.4mm
5	0.5mm

Terminal Design

	Number	Spec.
	None	solid
	A	with nut

Plug Type and Installation Dimension

1. IRIDIUM SAVER

Iridium pad without cross groove on center electrode and Platinum pad on ground electrode.

3. IRIDIUM SAVER

For vehicle

5. IRIDIUM SAVER DDI (DENSO Double Iridium)

Iridium pad without cross groove on center electrode and Iridium pad on ground electrode.



1. IRIDIUM SAVER PERFORMER

Iridium pad with cross groove on center electrode and Platinum pad on ground electrode.

3. IRIDIUM SAVER

Iridium pad without cross groove on center electrode and Platinum pad on ground electrode.

5. IRIDIUM SAVER DDI (DENSO Double Iridium)

Iridium pad without cross groove on center electrode and Iridium pad on ground electrode.



The DENSO logo is located in the bottom left corner. It consists of the word "DENSO" in a white, italicized, sans-serif font, set against a red rectangular background. A white curved line is visible on the left side of the red rectangle.

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