

DARRAH's



Gate Turn-Off Thyristors, GTO's Freewheeling & Snubber Diodes

The gate turn-off thyristor (GTO) is a very high power semiconductor switch, designed for use in industrial applications demanding the ultimate in voltage blocking and current carrying capabilities. As a member of the thyristor family, the GTO is basically a four layer three junction regenerative structure. GTO's differ from conventional thyristors, in that they are designed to turn-off when negative voltage is applied to the gate electrode.

Darrah Stocked GTO Types

GTO Family Type	Voltage Rating	Current Rating	Package Type
5SGA 20H2501	2500	2000	H
5SGA 25H2501	2500	2500	H
5SGA 30J2501	2500	3000	J
5SGA 20H4502	4500	2000	H
5SGA 30J4502	4500	3000	J
5SGA 30J4505	4500	3000	J
5SGA 40L4501	4500	4000	L



GTO's require specific firing circuits, freewheeling and snubber diodes to operate correctly. Changing either of these items without checking with the manufacturer can be risky and cause premature problems or failures.

Recommended Freewheeling and Snubber Diodes for GTO Thyristors

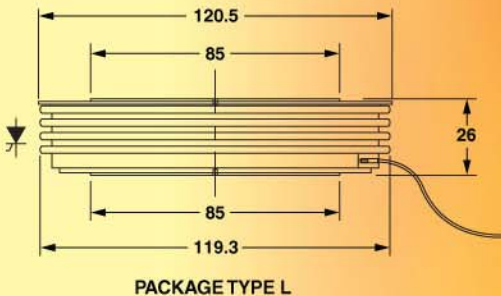
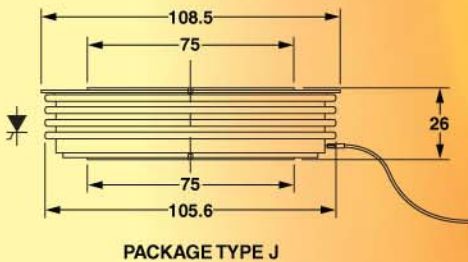
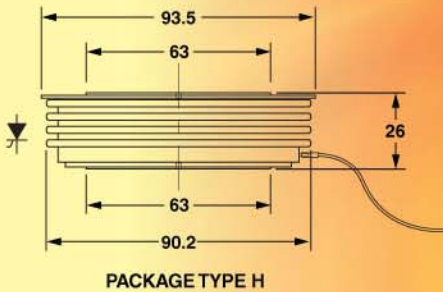
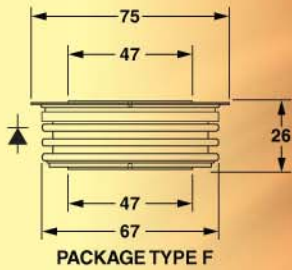
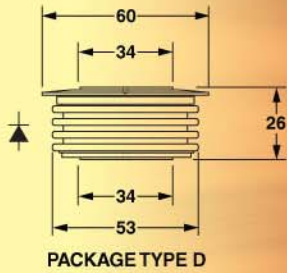
GTO Family Type	Package Type	Recommended Freewheeling Diodes	Package Type	Recommended Snubber Diodes	Package Type
5SGA 20H2501	H	5SDF 05D2505	D	5SDF 05D2501	D
		5SDF 11F2501	F		
5SGA 25H2501	H	5SDF 05D2505	D	5SDF 05D2501	D
		5SDF 11F2501	F		
5SGA 30J2501	J	5SDF 11F2501	F	5SDF 05D2501	D
5SGA 20H4502	H	5SDF 03D4501	D	5SDF 03D4501	D
		5SDF 07F4501	F		
5SGA 30J4502	J	5SDF 07F4501	F	5SDF 03D4501	D
		5SDF 13H4501	H		
5SGA 30J4505	J	5SDF 07F4501	F	5SDF 03D4501	D
		5SDF 14H4505	H		
5SGA 40L4501	L	5SDF 13H4501	H	5SDF 03D4501	D
				5SDF 07H4501	H



Featuring ABB Semiconductors



GTO/Diode Package Types



All dimensions are in mm.



Semiconductor Mounting Clamps

The clamping force for hockey puck semiconductors varies with size and manufacturer. The clamping force recommended by the manufacturer is supplied to give optimal thermal and electrical contact to insure correct operation and long life of the device.

Inaccurately calibrated or incorrect clamping force will limit the life of your semiconductor. Furthermore, when semiconductor brands are cross referenced or changed, clamping forces are often found to be different. Thermal expansion and re-using clamps often affect the calibrated force.

It is Darrah's recommendation that semiconductor clamps be changed if persistent problems continue.

Darrah Electric offers pre-calibrated clamps with built-in force indicators.

Call for a copy of our selection and mounting instructions. Ask for instruction set 1138.



Testing GTO Thyristors

Testing any GTO Thyristor or Diode is easy using the Darrah M3K Portable Semiconductor Tester. The Darrah M3K accurately tests gate current and voltage to trigger. Also test forward and reverse blocking voltage and leakage current at rated voltage.

The tests are of the type recommended by the semiconductor manufacturer and do not damage the device being tested.

The M3K tester has LED meters, shipped with instructions, weighs 10 pounds and is housed in a sturdy 8" x 8" x 16" plastic case.



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