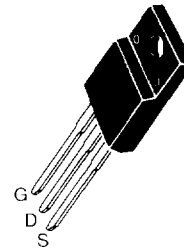
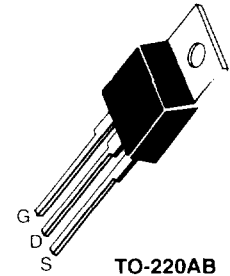




SMARTDISCRETE



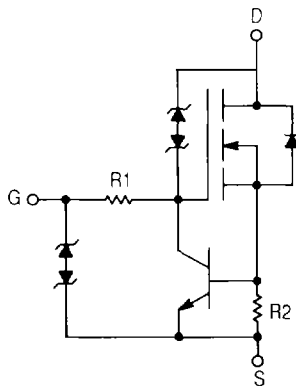
**CASE 221D-02
ISOLATED TO-220
(MLA PREFIX)
(MPPD PREFIX)**



**TO-220AB
CASE 221A-06
(MLP PREFIX)**

The SMARTDISCRETE Concept

From a standard power MOSFET process, several active and passive elements can be obtained that provide on-chip protection to the basic power device. Such elements require only a small increase in silicon area and/or the addition of one masking layer to the process. The resulting device exhibits significant improvements in ruggedness and reliability and a system cost reduction. These SMARTDISCRETE functions can now provide an economical alternative to smart power ICs for power applications requiring low on-resistance, high voltage and high current.



MLA1N06CL and MLP1N06CL

The MLP1N06CL and MLA1N06CL are SMARTDISCRETE devices that have integrated on-chip current limit capability, drain-to-source voltage clamping and gate voltage protection. The logic level processing allows operation of these devices at half of the gate-to-source (5 volts) voltage of the conventional MOSFETs and can now be driven directly from CMOS or TTL logic drivers. This integration of technologies results in an intelligent, monolithic power circuit that offers a reduced parts count and improved reliability by replacing resistors, diodes, a bipolar transistor and a MOSFET with one device.

**Table 15 — Case 221D-02
Case 221A-06**

V _{DSS} (Volts) Min	R _{DS(on)} @ I _D (Ohms) (Amps) Max		Device	I _D (cont) Amps	P _D * (Watts) Max
	0.75	1			
60			MLP1N06CL	current limited voltage clamped	40
			MLA1N06CL		30

* T_C = 25 °C
 Indicates U.L. Recognized

MPPD2021

This Logic Level Insulated Bipolar Transistor (IGBT) features Gate-Source ESD protection and Gate-Drain over-Voltage Protection from SMARTDISCRETE monolithic circuitry for usage as an ignition coil driver.

Table 16 — Case 221D-02

V _{CEO} (Volts)	V _{CE(on)} @ I _C (Volts) (Amps) Max	I _C (cont) Amps	Device	I _C (cont) Amps	P _D * (Watts) Max
350 Clamped	1.8				

* T_C = 25 °C
 Indicates U.L. Recognized