

Types and Uses of GaAs electronic devices

Electronic devices	Material(layer/substrate)	Application	Technology Trends	Material Required
Digital IC (MESFET/HEMT)	GaAs/GaAs GaAlAs/GaAs	Ultra-high-speed computers PC,ATM,Image Processing	High level of integration Low operating voltage	
Microvave Devices (MESFET/HEMT, Simulation ICMMICHBT)	GaAs/GaAs GaAlAs/GaAs GaAlAs/InGaAs/GaAs InGaP/GaAs/GaAs	Mobile communications, satellite broadcasting Low-noise receiver, amplified Automotive anti-collision system PAR	High power, low noise, High level of integration Low operating voltage	Low cost Large diameter Low V _{th}
Hall devices	GaAs/GaAs	Auto VTR、 FDD sensors Position detection sensor	High sensitivity	Low cost,large diameter

Types and Uses of GaAs optoelectronic devices

Optoelectronic devices	Material(layer/substrate)	Application	Technology Trends	Material Required
Visible Light LED	GaAsP/GaAs(red) GaAlAs/GaAs(high brightness red) InGaAlP/GaAs(high brightness orange/yellow)	Home appliances, DA, electronic equipment Car lights Lights in fax	High brightness Short wavelength	Low costs Large diameter
IR LED	GaAs/GaAs GaAlAs/GaAs	Home appliances,DA machinery in Electronics industry Remote control and optocoupler Optical circuit breaker	High power	
Semiconductor Laser	GaAs/GaAs	Optical communication switch		
Short Wavelength LD	GaAlAs/GaAs(780nm) InGaAlP/GaAs(680~630nm)	Light-emitting devices for Optical LAN,light emitting devices for testing equipments,CD,MD,Laser printer,CD-Rom,DVD-Rom,DVD-RAM	High Power,high level of integration,low wavelength	Low density,large diameter,low cost
Solar Cell	GaAs/GaAs	Satellite broadcasting, communications,Unmanned meteorological stations		