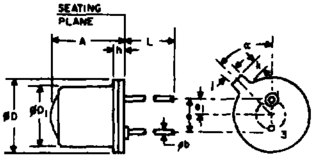
1N6264, 1N6265

Infrared Emitter
Gallium Arsenide Infrared Emitting Diode

The 1N6264 and 1N6265 Series are gallium arsenide, light emitting diodes which emit non-coherent, infrared energy. They are ideally suited for use with silicon detectors. The 1N6264 has a lens which provides a narrow beam angle while the 1N6265 has a flat window for a wide beam angle which is useful with external lensing.

1N6264



SYMBOL	INCHES MIN.	INCHES MAX.	MILLIMETERS MIN.	MILLIMETERS MAX.	NOTES
A		.255		6.47	
ϕb	016	021	.407	.533	
ϕD	.209	.230	5.31	5.84	
ϕD_1	.180	.188	4.57	4.77	
e	.100 NOM.		2.54 NOM		2
e_1	050 NOM.		1.27 NOM		2
h		.030		.76	
j	.031	.044	.79	1.11	
k	.036	046	.92	1.16	1
L	1.00		25.4		
α	45°		45°		3

absolute maximum ratings: (25°C unless otherwise specified)

Voltages

† Reverse Voltage	V_R	3	volts

Currents

† Forward Current (continuous)	I_F	100	mA
† Forward Current (pw 1 µs, 200 Hz)	I_F	10	A

Dissipation

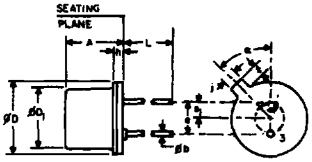
† Power Dissipation (T_A = 25°C)*	P_T	170	mW
Power Dissipation (T_C = 25°C)**	P_T	1.3	W

Temperatures

† Junction Temperature	T_J	-65 to +150	°C
† Storage Temperature	T_{stg}	-65 to +150	°C
† Lead Soldering Time (1/16" [1.6mm] from case for 10 sec.)	T_L	260	°C

*Derate 1.36 mW/°C above 25°C ambient.
**Derate 10.4 mW/°C above 25°C case.

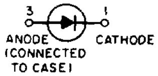
1N6265



SYMBOL	INCHES MIN.	INCHES MAX.	MILLIMETERS MIN.	MILLIMETERS MAX.	NOTES
A		.155		3.93	
ϕb	.016	021	.407	.533	
ϕD	209	230	5.31	5.84	
ϕD_1	.180	.187	4.57	4.77	
e	100 NOM.		2.54 NOM.		2
e_1	050 NOM.		1 27 NOM		2
h		.050		.76	
j	031	044	.79	1.11	
k	036	.046	.92	1.16	1
L	1.00		25.4		
α	45°		45°		3

electrical characteristics: (25°C unless otherwise specified)

	SYM.	MIN.	TYP.	MAX.	UNITS
† Reverse Leakage Current (V_R = 3V)	I_R	–	–	10	µA
† Forward Voltage (I_F = 100 mA)	V_F	–	1.4	1.7	Volts
† Total Power Output (note 1) (I_F = 100 mA)	P_o	6	–	–	mW
† Peak Emission Wavelength (I_F = 100 mA)	λ_p	935	945	955	nm
Spectral Shift with Temperature		–	.28	–	nm/°C
† Spectral Bandwidth – 50%	$\Delta\lambda$	–	–	60	nm
† Half Intensity Beam Angle					
1N6264	θ_{HI}	–	–	20	deg
1N6265	θ_{HI}	–	–	80	deg
Rise Time – 0-90% of Output	t_r	–	1.0	–	µs
Fall Time – 100-10% of Output	t_f	–	1.0	–	µs



1. Measured from maximum diameter of device.
2. Leads having max. diameter .021" (.533mm) measured in gaging plane .054" + .001" – .000 (137 + 025 – 000mm) below the reference plane of the device shall be within .007" (.778mm) their true position relative to a maximum width tab.
3. From centerline tab.

Note 1:
Total power output, P_O, is the total power radiated by the device into a solid angle of 2 π steradians.

† Indicates JEDEC registered values.

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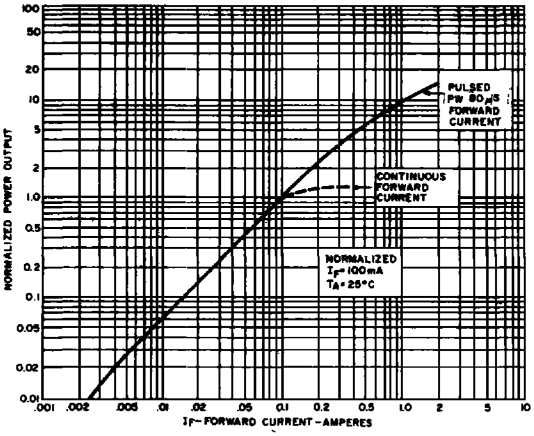
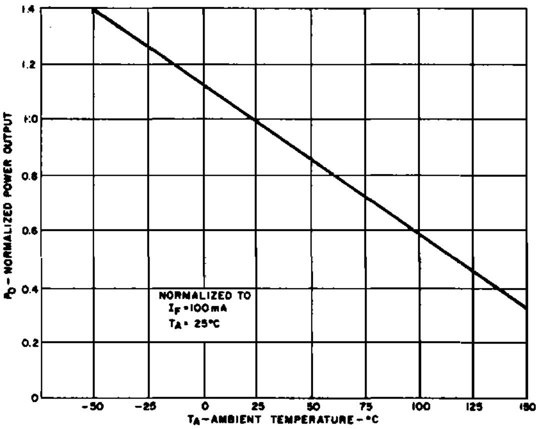
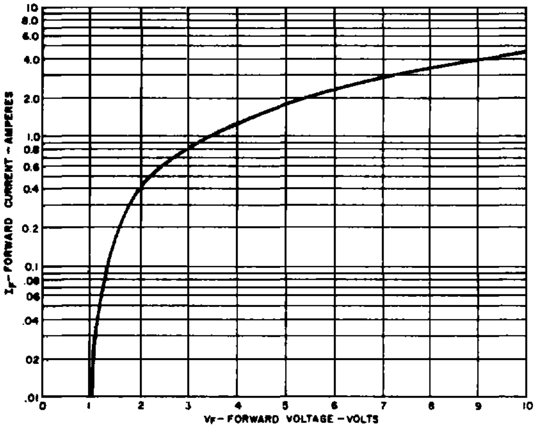
TYPICAL CHARACTERISTICS



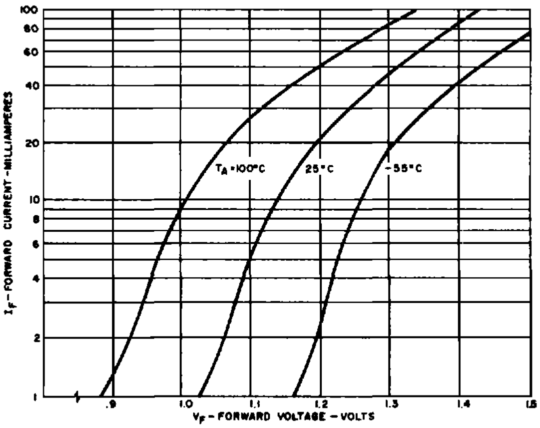
1. POWER OUTPUT VS. INPUT CURRENT



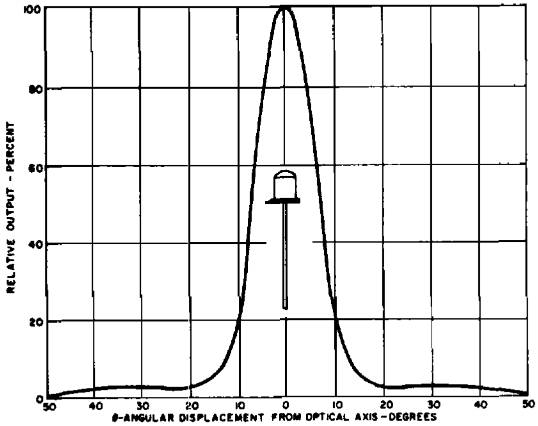
2. POWER OUTPUT VS. TEMPERATURE



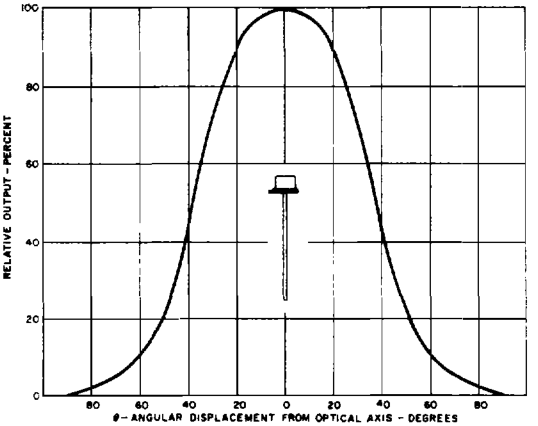
3. FORWARD VOLTAGE VS. FORWARD CURRENT



4. FORWARD VOLTAGE VS. FORWARD CURRENT



5. 1N6264 – TYPICAL RADIATION PATTERN



6. 1N6265 – TYPICAL RADIATION PATTERN