



TELEFUNKEN electronic  
Creative Technologies

TSTS 720.  
T-41-11

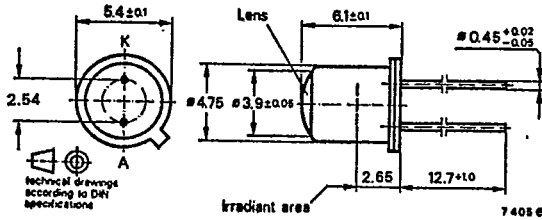
GaAs Infrared Diodes in Hermetically Sealed Cases

Applications: Radiation source in near infrared range

Features:

- High radiant power
- Suitable for pulse operation
- Good spectral matching for silicon photo detectors
- Angle of half intensity  $\pm\phi = 15^\circ$

Dimensions in mm



Cathode connected with case

~ 18A2DIN 41876  
~ JEDEC TO 18  
Weight max. 0.5 g

Absolute maximum ratings

$T_{case} \leq 25^\circ C$			
Reverse voltage	$V_R$	5	V
Forward current	$I_F$	250	mA
Forward peak current	$I_{FM}$	500	mA
$\frac{t_p}{T} = 0.5, t_p \leq 10 \mu s$			
Forward surge current	$I_{FSM}$	2.5	A
$t_p \leq 10 \mu s$			
Power dissipation	$P_V$	170	mW
$T_{amb} \leq 25^\circ C$			
$T_{case} \leq 25^\circ C$	$P_V$	500	mW
Junction temperature	$T_j$	100	$^\circ C$
Storage temperature range	$T_{stg}$	-55...+100	$^\circ C$

Thermal resistances

		Min.	Typ.	Max.	
Junction ambient	$R_{thJA}$			450	K/W
Junction case	$R_{thJC}$			150	K/W

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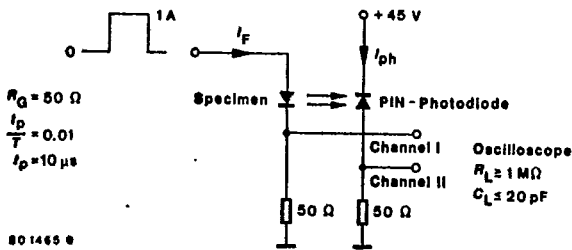
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Optical and electrical characteristics		Min.	Typ.	Max.
$T_{amb} = 25\text{ }^\circ\text{C}$				
Radiant power				
$I_F = 100\text{ mA}, t_p \leq 20\text{ ms}$	$\Phi_e$		8	mW
Temperature coefficient of $\Phi_e$				
$I_F = 100\text{ mA}$	$TK_{\Phi_e}$		-0.8	%/K
Radiant intensity				
$I_F = 100\text{ mA}, t_p \leq 20\text{ ms}$				
	TSTS 7200	4.0		mW/sr
	TSTS 7201	6.3	12.5	mW/sr
	TSTS 7202	10.0	20.0	mW/sr
	TSTS 7203	16.0	32.0	mW/sr
	TSTS 7204	28		mW/sr
Peak wavelength emission				
$I_F = 100\text{ mA}$	$\lambda_p$		950	nm
Spectral half bandwidth				
$I_F = 100\text{ mA}$	$\Delta\lambda$		50	nm
Forward voltage				
$I_F = 100\text{ mA}, t_p \leq 20\text{ ms}$	$V_F^{*)}$		1.4	1.7
Breakdown voltage				
$I_R = 100\text{ }\mu\text{A}$	$V_{(BR)}^{*)}$	5		V
Junction capacitance				
$V_R = 0, f = 1\text{ MHz}$	$C_j$		50	pF
Switching characteristics				
$I_{FM} = 1\text{ A}, \frac{t_p}{T} = 0.01, t_p \leq 10\text{ }\mu\text{s}$ , see test circuit				
Rise time	$t_r$		400	ns
Fall time	$t_f$		450	ns

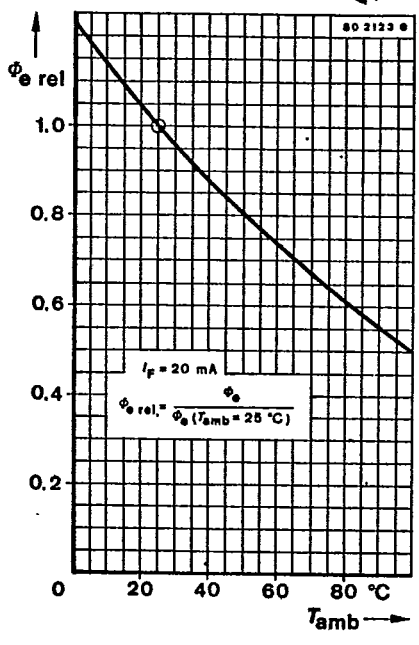
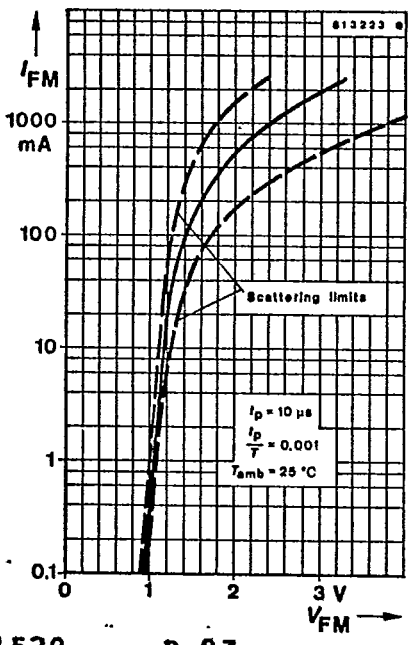
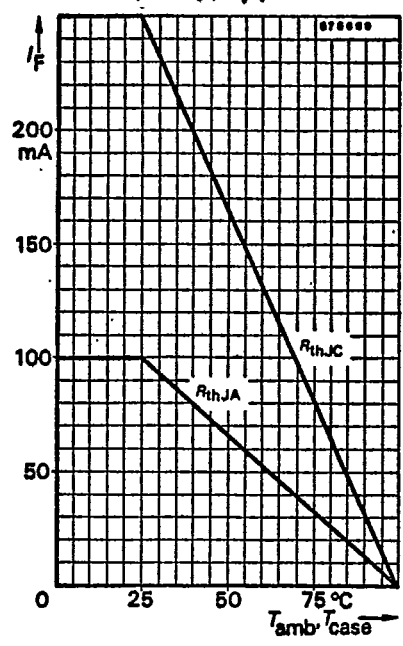
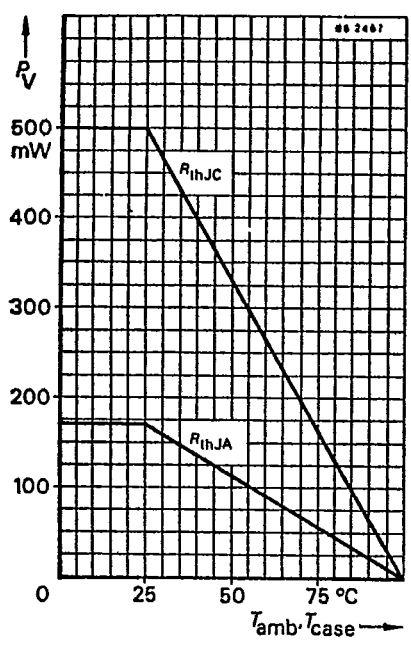


Test circuit

\*) AQL = 0.65 %

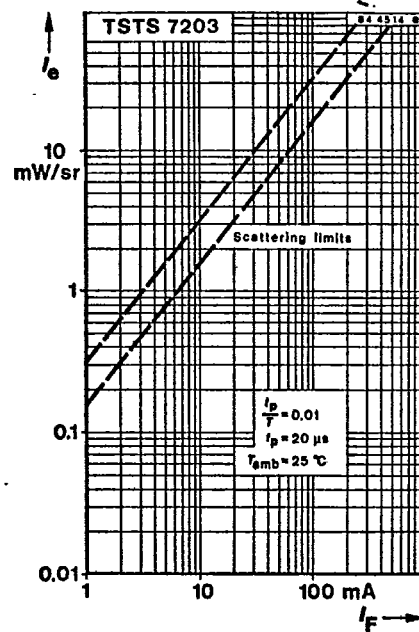
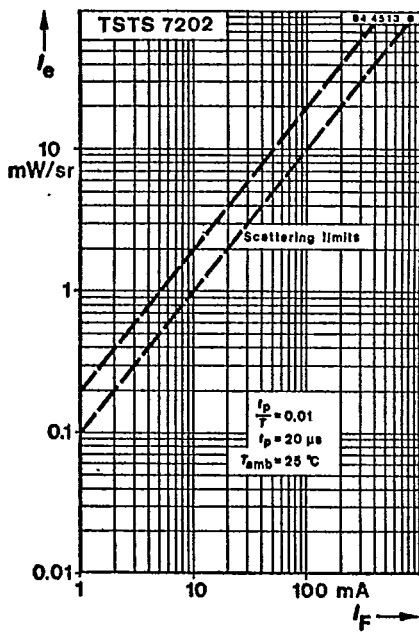
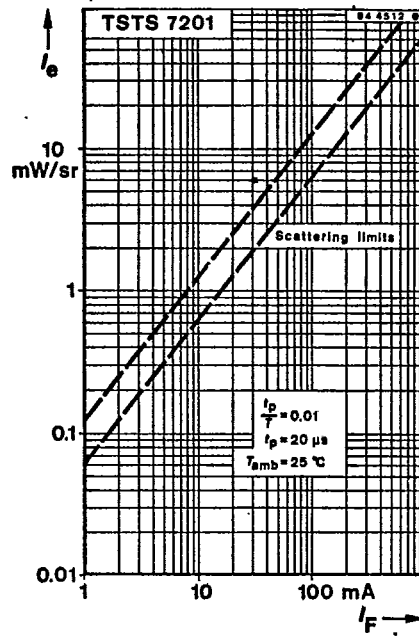
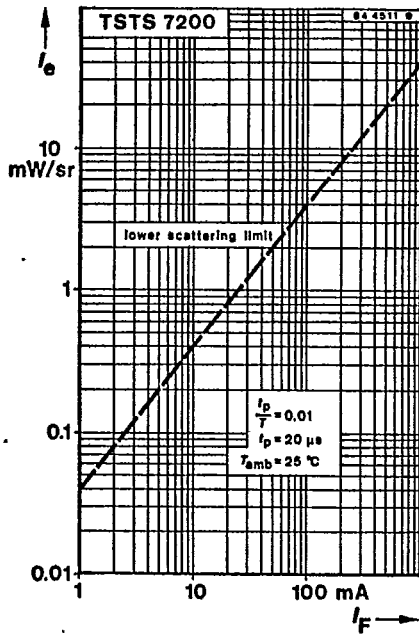
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