



BPX.99

T-41-63

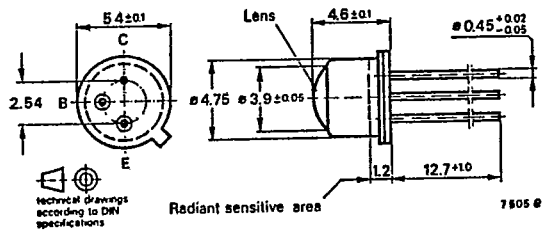
Monolithic Silicon NPN Epitaxial Photo Darlington Transistor

Applications: Direct driving of relays, magnetic valves, small motors etc.

Features:

- Hermetically sealed case
- Suitable for visible and near infrared radiation
- Collector current 0.5 A
- High sensitivity
- Base terminal is available

Dimensions in mm



Collector connected with case
 Angle of half intensity:
 $\pm\phi = 12,5^\circ$

~18 A3 DIN 41876
 ~ JEDEC TO 52
 Weight max. 0.5 g

Absolute maximum ratings

Collector-emitter voltage	V_{CEO}	32	V
Emitter-base voltage	V_{EBO}	10	V
Collector current	I_C	0.5	A
Peak collector current			
$\frac{t_p}{T} \leq 0.05, t_p \leq 10 \text{ ms}$	I_{CM}	1	A
Total power dissipation			
$T_{amb} \leq 25^\circ\text{C}$	P_{tot}	0.33	W
$T_{case} \leq 45^\circ\text{C}$	P_{tot}	1.6	W
Ambient temperature range	T_{amb}	-55...+125	°C
Case temperature	T_{case}	125	°C

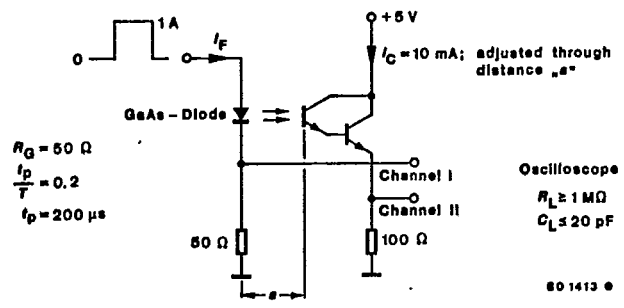
T1.2/1141.0788 E

1336 E-01

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		Min.	Typ.	Max.	
Thermal resistance					
Junction ambient	R_{thJA}			300	K/W
Junction case	R_{thJC}			50	K/W
Optical and electrical characteristics					
$T_{amb} = 25\text{ }^\circ\text{C}$					
Collector dark current	$I_{CEO}^{*)}$		10	200	nA
$V_{CE} = 20\text{ V}, E = 0$					
Collector light current	$I_{ca}^{*)}$	3	30		mA
$V_{CE} = 5\text{ V}, E_s = 0.3\text{ mW/cm}^2, \lambda_p = 950\text{ nm}$					
Peak wavelength sensitivity	λ_p		800		nm
Range of spectral bandwidth (50%)	$\lambda_{0.5}$		600..900		nm
Collector-emitter breakdown voltage	$V_{(BR)CEO}^{*)}$	32			V
$I_C = 1\text{ mA}$					
Collector-emitter saturation voltage	$V_{CEsat}^{*)}$		0.75	1	V
$I_C = 0.1\text{ mA}, E_s = 0.3\text{ W/cm}^2, \lambda_p = 950\text{ nm}$					
Switching characteristics					
$V_S = 5\text{ V}, I_C = 10\text{ mA}, R_L = 100\text{ }\Omega$, see test circuit					
Delay time	t_d		10		μs
Rise time	t_r		80		μs
Turn-on time	t_{on}		90		μs
Storage time	t_s		5		μs
Fall time	t_f		60		μs
Turn-off time	t_{off}		65		μs

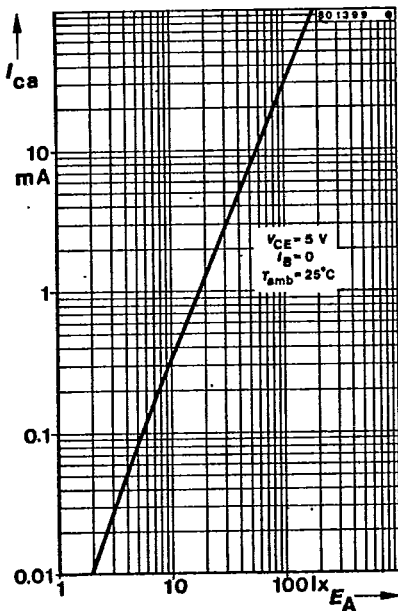
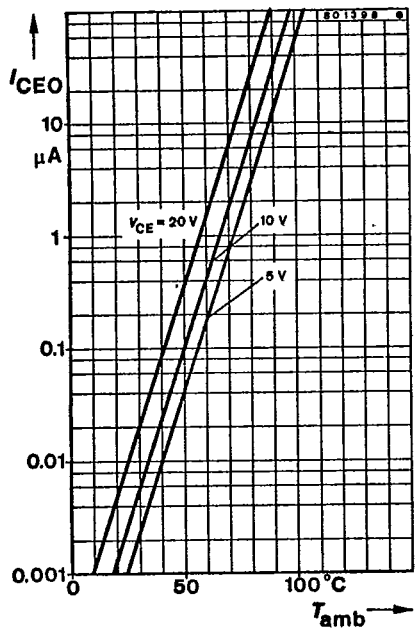
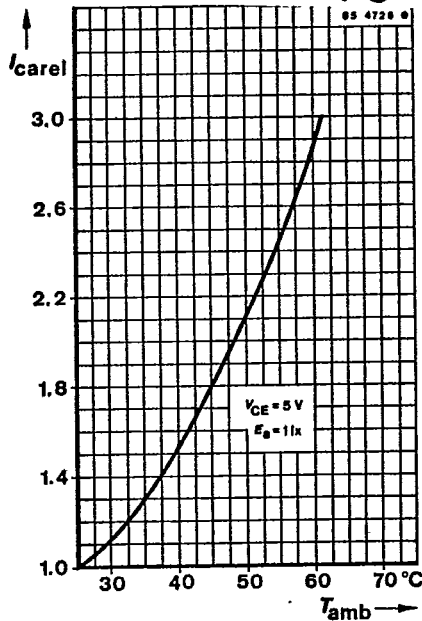
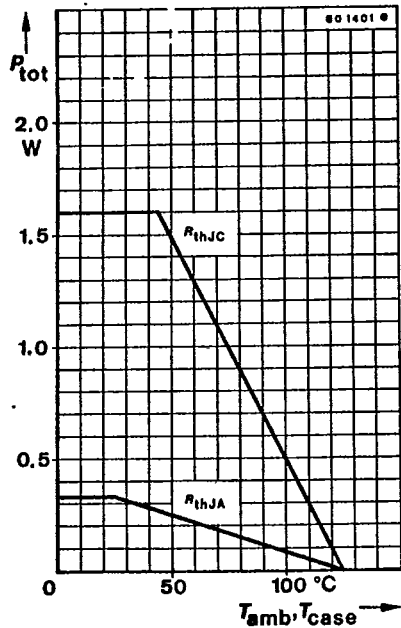


Test circuit

*) AQL = 0.65%

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