NPN Silicon Darlington Power Transistor — BUX 28

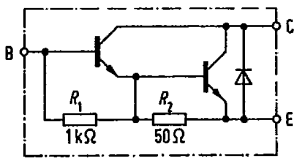
SIEMENS AKTIENGESELLSCHAF

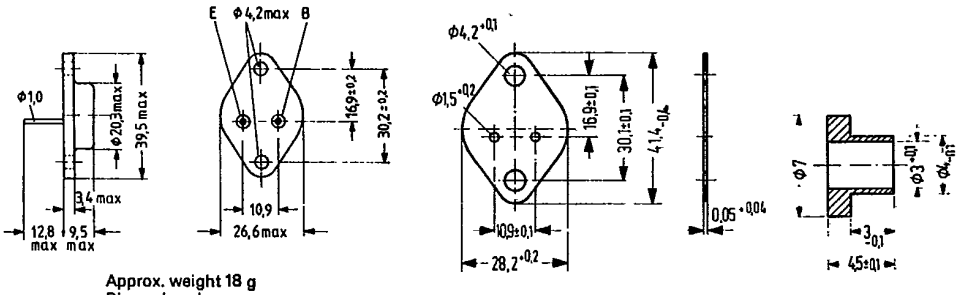
Not for new design

BUX 28 is a triple diffused monolithic NPN darlington power transistor in TO 3 case (3 A 2 DIN 41872). The collector is electrically connected to the case. The resistor between base and emitter as well as the inverting diode are integrated.

BUX 28 is particularly suitable for use in firing circuits of cars and for general purpose switching applications at high voltages.

Type	Ordering code
BUX 28	Q62702-U258
Mica washer	Q62901-B11-A
Insulating nipple	Q62901-B50





Approx. weight 18 g
Dimensions in mm

Mica washer dry: R_{th} = 1.25 K/W
greased: R_{th} = 0.35 K/W

Insulating nipple

Maximum ratings

Collector-emitter voltage	V_{CEO}	350	V
Collector-emitter voltage	V_{CER}	350	V
Collector current	I_C	8	A
Collector peak current (t_p< 1 ms)	I_{CM}	12	A
Current of the inverse diode	$-I_C$	8	A
Base current	I_B	1.5	A
Junction temperature	T_j	175	°C
Total power dissipation ($T_{case} \leq 55$ °C)	P_{tot}	80	W

Thermal resistance

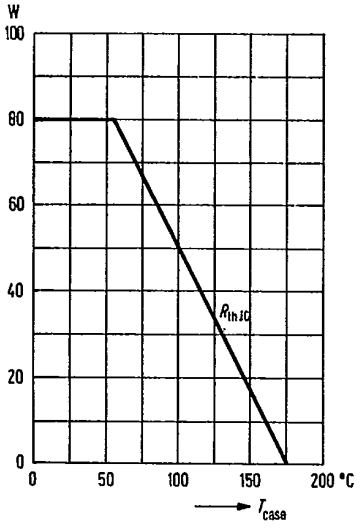
Junction to case	R_{thJC}	< 1.2	K/W

Static characteristics (T_{case} = 25 °C)

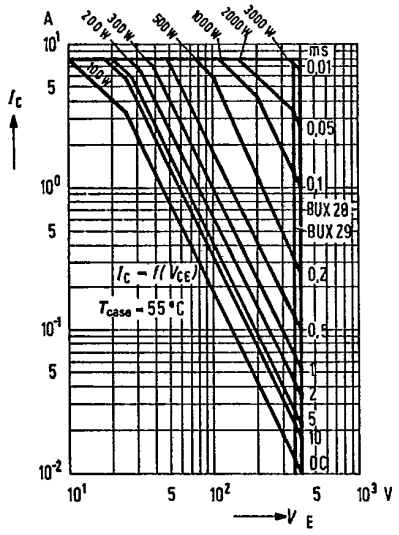
Collector-emitter breakdown voltage (I_C = 100 mA; L = 25 mH)	$V_{(BR)CEO}$	> 350	V*
Collector cutoff current	I_{CEO}	< 1	mA
Collector cutoff current			
(V_{CE} = 350 V)	I_{CEO}	< 1	mA
(V_{CE} = 350 V, T_{case} = 125 °C; t_p < 200 µs)	I_{CES}	< 10	mA
DC current gain (I_C = 7 A; V_{CE} = 1.5 V)	h_{FE}	> 10	–
Collector-emitter saturation voltage (I_C = 10 A; I_B = 0.25 A)	V_{CEsat}	< 2	V*
Base-emitter saturation voltage (I_C = 10 A; I_B = 0.25 A)	V_{BEsat}	< 2.4	V*
Forward voltage of the inverse diode ($-I_C$ = 7 A; I_B = 0)	$-V_{CE}$	1.5	V

* AQL = 0.65%

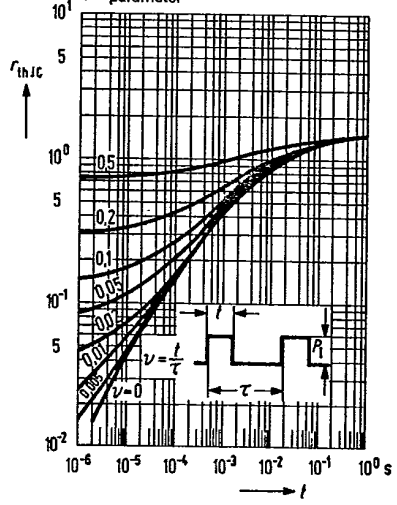
Total perm. power dissipation versus temperature
$P_{tot} = f(T_{case})$; V_{CE} = parameter



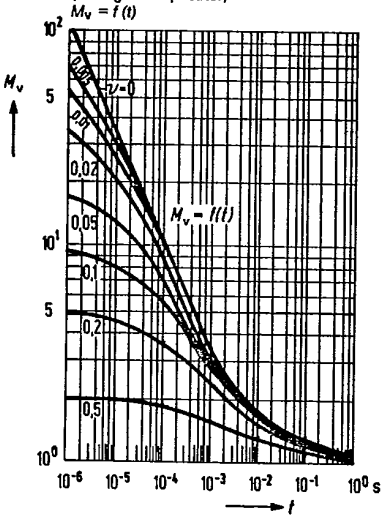
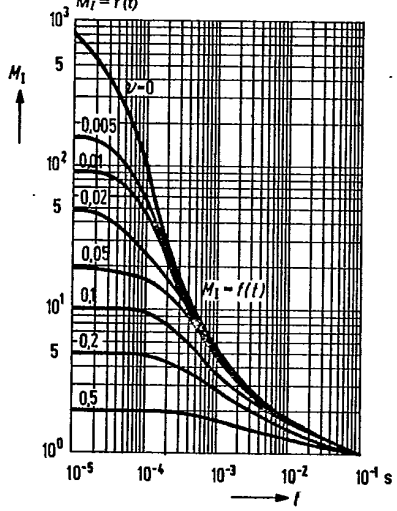
Permissible operating range
$I_C = f(V_{CE})$; T_{case} = 55 °C; v = 0



Permissible pulse load
$r_{thJC} = f(t)$
ν = parameter



Pulse load
(Voltage multiplicator)
$M_v = f(t)$



Pulse load
(Current multiplicator)
$M_I = f(t)$