onsemi

NPN Epitaxial Silicon Darlington Transistor

KSE800

Features

- Monolithic Construction with Built-in Base-Emitter Resistors
- High DC Current Gain: h_{FE} = 750 (Min.) @ I_C = 1.5 and 2.0 A DC
- Complement to KSE700
- This is a Pb–Free Device

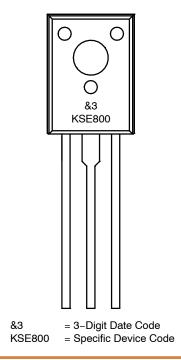
ABSOLUTE MAXIMUM RATINGS (T_C = 25° C unless otherwise noted)

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage	60	V
V _{CEO}	Collector-Emitter Voltage	60	V
V _{EBO}	Emitter-Base Voltage	5	V
Ι _C	Collector Current	4	А
Ι _Β	Base Current	0.1	А
P _C	Collector Dissipation (T _C = 25°C)	40	W
TJ	Junction Temperature	150	°C
T _{STG}	Storage Temperature	–55 ~ 150	°C

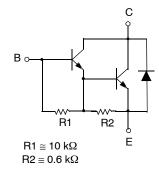
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.



MARKING DIAGRAM



EQUIVALENT CIRCUIT



ORDERING INFORMATION

Device	Package	Shipping
KSE800STU	TO-126-3LD (Pb-Free)	1920 Units / Tube

KSE800

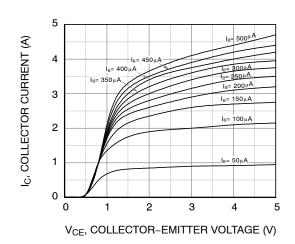
Symbol	Parameter	Test Condition	Min	Max	Units
BV _{CEO}	Collector-Emitter Breakdown Voltage	I _C = 50 mA, I _B = 0	60		V
I _{CEO}	Collector Cut-off Current	$V_{CE} = 60 \text{ V}, \text{ I}_{B} = 0$		100	μA
I _{CBO}	Collector Cut-off Current	V_{CB} = Rated BV _{CEO} , I _E = 0 V _{CB} = Rated BV _{CEO} , I _E = 0, T _C = 100°C		100 500	μΑ
I _{EBO}	Emitter Cut-off Current	V _{BE} = 5 V, I _C = 0		2	mA
h _{FE}	DC Current Gain	$V_{CE} = 3 V, I_C = 1.5 A$ $V_{CE} = 3 V, I_C = 4 A$	750 100		
V _{CE} (sat)	Collector-Emitter Saturation Voltage	$I_{C} = 1.5 \text{ A}, I_{B} = 30 \text{ mA}$ $I_{C} = 4 \text{ A}, I_{B} = 40 \text{ mA}$		2.5 3	V
V _{BE} (on)	Base-Emitter On Voltage	$V_{CE} = 3 V, I_C = 1.5 A$ $V_{CE} = 3 V, I_C = 4 A$		2.5 3	V

ELECTRICAL CHARACTERISTICS (T_C = 25° C unless otherwise noted)

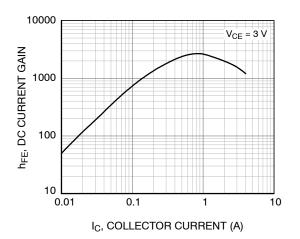
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

KSE800

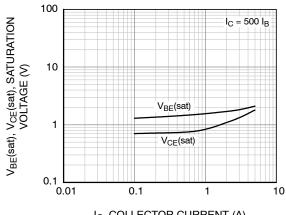
TYPICAL CHARACTERISTICS











I_C, COLLECTOR CURRENT (A)

Figure 3. Collector–Emitter Saturation Voltage Base–Emitter Saturation Voltage

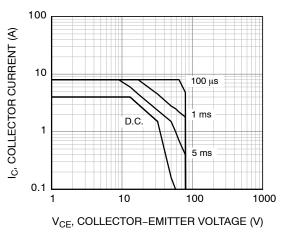


Figure 5. Safe Operating Area

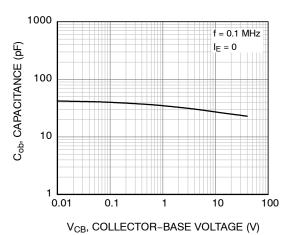
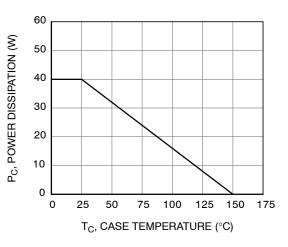
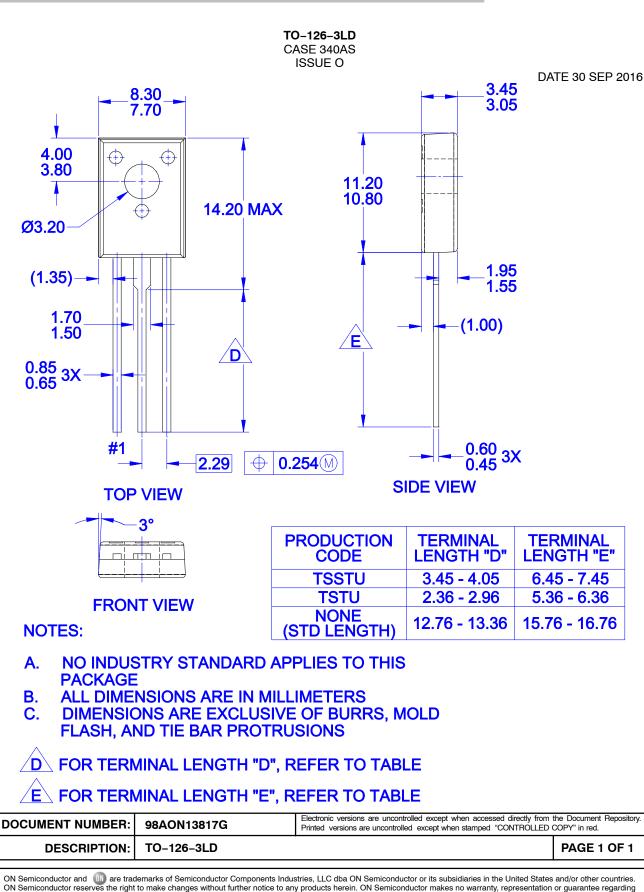


Figure 4. Collector Output Capacitance









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