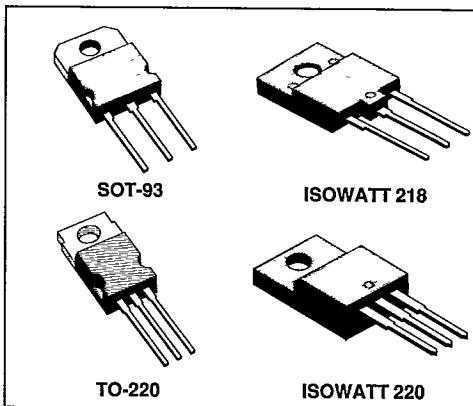
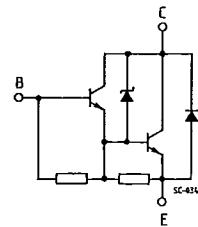



S G S-THOMSON
30E D
NPN POWER DARLINGTON
ADVANCE DATA

- HIGH RUGGEDNESS
- INTEGRATED HIGH VOLTAGE ZENER

AUTOMOTIVE MARKET

- APPLICATION IN HIGH PERFORMANCE ELECTRONIC CAR IGNITION


INTERNAL SCHEMATIC DIAGRAM

DESCRIPTION

The BU921ZP, BU921ZT, BU921ZPFI and BU921ZTFI are silicon multiepitaxial biplanar NPN transistors in monolithic darlington configuration mounted respectively in SOT-93, TO-220 plastic packages and ISOWATT218, ISOWATT220 fully isolated packages.

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter					Value	Unit
V_{CBO}	Collector-base Voltage ($I_E = 0$)					350	V
V_{CER}	Collector-emitter Voltage ($R_{BE} = 100 \Omega$)					350	V
V_{CES}	Collector-emitter Voltage ($V_{BE} = 0$)					350	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)					350	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)					5	V
I_C	Collector Current					16	A
I_B	Base Current					5	A
		SOT-93	ISOWATT218	TO-220	ISOWATT220		
P_{tot}	Total Dissipation at $T_c < 25^\circ\text{C}$	125	60	100	40	W	
T_{stg}	Storage Temperature			-40 to 150			°C
T_j	Max. Operating Junction Temperature			150			°C

THERMAL DATA

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		SOT-93	ISOWATT218	TO-220	ISOWATT220	
R _{th} j-case	Thermal Resistance Junction-case Max	1	2.08	1.25	3.12	°C/W

T-33-29

ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CE}	= 350 V			250	µA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{BE}	= -5 V			50	mA
V _{CL}	Clamping Voltage	either and same	I _B = 0 or V _{BE} ≈ 0 I _C = 100 mA T _j = 125 °C	350 350		500 500	V V
V _{CE(sat)*}	Collector-emitter Saturation Voltage	I _C = 5 A I _C = 6 A I _C = 8 A T _j = 125 °C	I _B = 50 mA I _B = 75 mA I _B = 120 mA		1.03 1.08 1.17	1.4 1.5 1.6	V V V
V _{BE(sat)*}	Base-emitter Saturation Voltage	I _C = 6 A I _C = 8 A	I _B = 75 mA I _B = 120 mA		0.98 1.04 1.17	2.2 2.3	V V V
h _{FE}	DC Current Gain	I _C = 5 A	V _{CE} = 10 V	300			
V _{F*}	Diode Forward Voltage	I _F = 10 A				2.5	V
	USE TEST	V _{CC} = 24 V	L = 8 mH	8			A

* Pulsed : pulsed duration = 300 µs, duty cycle = 1.5 %.