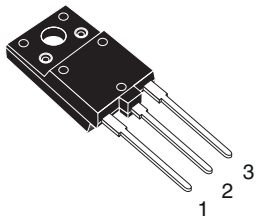
BU808DFX

HIGH VOLTAGE FAST-SWITCHING NPN POWER DARLINGTON TRANSISTOR

- STMicroelectronics PREFERRED SALESTYPE
- NPN MONOLITHIC DARLINGTON WITH INTEGRATED FREE-WHEELING DIODE
- HIGH VOLTAGE CAPABILITY (> 1400 V)
- HIGH DC CURRENT GAIN (TYP. 150)
- FULLY INSULATED PACKAGE (U.L. COMPLIANT) FOR EASY MOUNTING
- LOW BASE-DRIVE REQUIREMENTS
- DEDICATED APPLICATION NOTE AN1184



ISOWATT218FX

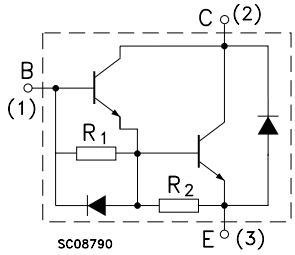
APPLICATIONS

- COST EFFECTIVE SOLUTION FOR HORIZONTAL DEFLECTION IN LOW END TV UP TO 21 INCHES.

DESCRIPTION

The BU808DFX is a NPN transistor in monolithic Darlington configuration. It is manufactured using Multiepitaxial Mesa technology for cost-effective high performance.

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage (I_E = 0)	1400	V
V_{CEO}	Collector-Emitter Voltage (I_B = 0)	700	V
V_{EBO}	Emitter-Base Voltage (I_C = 0)	5	V
I_C	Collector Current	8	A
I_{CM}	Collector Peak Current (t_p < 5 ms)	10	A
I_B	Base Current	3	A
I_{BM}	Base Peak Current (t_p < 5 ms)	6	A
P_{tot}	Total Dissipation at T_c = 25 °C	62	W
V_{isol}	Insulation Withstand Voltage (RMS) from All Three Leads to Exernal Heatsink	2500	V
T_{stg}	Storage Temperature	-65 to 150	°C
T_j	Max. Operating Junction Temperature	150	°C

THERMAL DATA

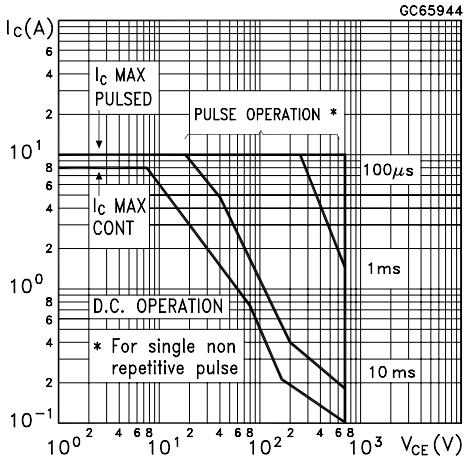
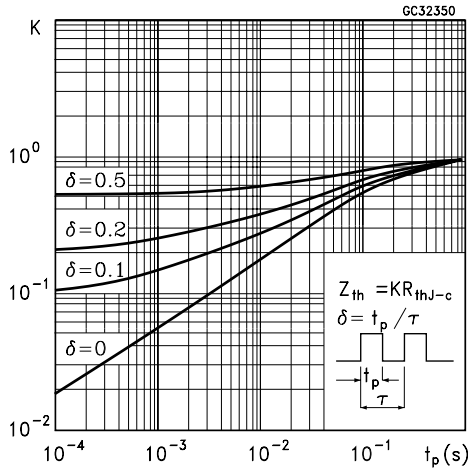
$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	2.02	°C/W

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

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector Cut-off Current (V_{BE} = 0)	V_{CE} = 1400 V			400	µA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	V_{EB} = 5 V			100	mA
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = 5 A I_B = 0.5 A			1.6	V
$V_{BE(sat)}$*	Base-Emitter Saturation Voltage	I_C = 5 A I_B = 0.5 A			2.1	V
h_{FE}*	DC Current Gain	I_C = 5 A V_{CE} = 5 V I_C = 5 A V_{CE} = 5 V T_j = 100 °C	60 20		230	
t_s t_f	INDUCTIVE LOAD Storage Time Fall Time	V_{CC} = 150 V I_C = 5 A I_{B1} = 0.5 A $V_{BE(off)}$ = -5 V		2.3 0.2		µs µs
t_s t_f	INDUCTIVE LOAD Storage Time Fall Time	V_{CC} = 150 V I_C = 5 A I_{B1} = 0.5 A $V_{BE(off)}$ = -5 V T_j = 100 °C		2 0.8		µs µs
V_F	Diode Forward Voltage	I_F = 5 A			3	V

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

Safe Operating Area



Thermal Impedance