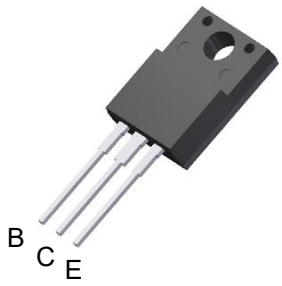
RED3070

8A Fast-switching high-voltage NPN Power Transistor

Features

- High Voltage Capability
- Very High Switching Speed
- High Reliability
- High current capability



TO-220F Package

Applications

- LED lighting
- High Frequency SMPS
- Fluorescent Ballasts

Description

These devices are designed for operation in high voltage high speed circuits, where fast switching in inductive circuits is critical. The transistor has been optimized for low fall-times in order to minimize switching losses.

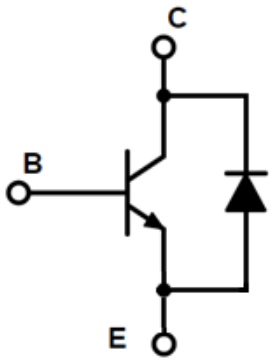


Figure 1: Block diagram

Table 1: Order Codes

Part number	Package	Packaging
RED3070AF	TO-220F	Tube

Table 2: Absolute Maximum Rating

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Emitter Voltage (V_{BE} = 0)	500	V
V_{CEO}	Collector-Emitter Voltage (I_B = 0)	300	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current	8	A
I_{CM}	Collector Peak Current (t < 5ms)	16	A
P_{TOT}	Total dissipation at Tc=25°C	40	W
T_{stg}	Storage Temperature	-55 - 150	°C
T_J	Max. Operating Junction Temperature	150	°C

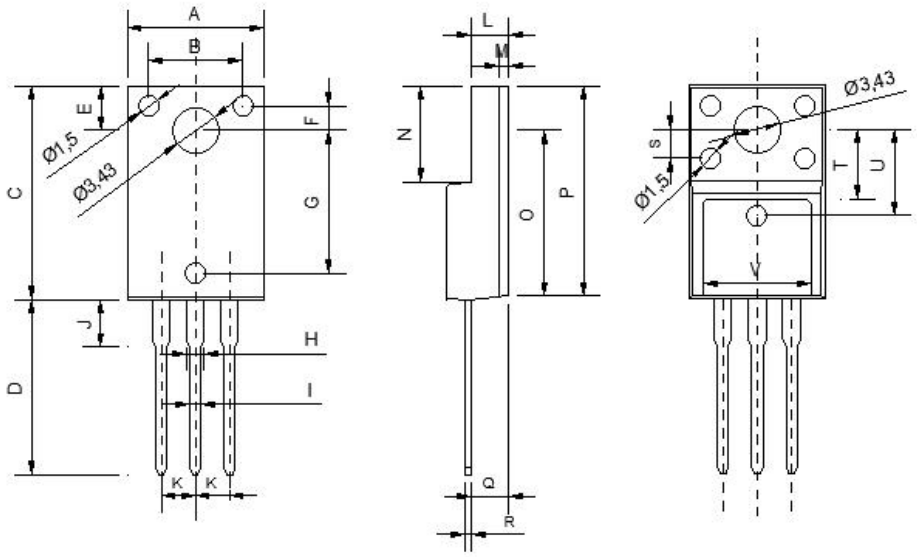
Table 3: Electrical Characteristics (T_{case} = 25°C)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C = 0.1mA	500			V
I_{CBO}	Collector – Base Leakage Current	V_{CE} = 500V, I_E = 0			10	uA
$V_{(BR)CEO}$	Collector – Emitter Breakdown Voltage	I_C = 0.1mA	300			V
I_{CEO}	Collector – Emitter Leakage Current	V_{CE} = 300V, I_C = 0			10	uA
$V_{(BR)EBO}$	Emitter – Base Breakdown Voltage	I_E = 0.1mA	9			V
I_{EBO}	Emitter – Base Leakage Current	V_{EB} = 9V, I_C = 0			10	uA
$V_{CE(sat)}$	Collector - Emitter Saturation Voltage	I_C = 5A , I_B = 1A			1	V
$V_{BE(sat)}$	Base - Emitter Saturation Voltage	I_C = 5A , I_B = 1A			1.5	V
h_{FE}	Current Gain	V_{CE} = 5V, I_C = 1A	15		40	
t_s	Storage Time	(UI9600) I_C = 0.5A	1.5		6	μs
f_t	Gain Bandwidth	V_{CE} = 10V, I_C = 0.5A , f = 1MHz	4			MHz

PACKAGE INFORMATION

Package Dimensions

TO-220F package dimensions are shown below. All units are in mm.



Dimensions	Min	Max
A	10.06	10.26
B	6.95	7.05
C	15.82	15.92
D	12.8	13
E	3.25	3.35
F	1.75	1.85
G	10.55	10.65
H	1.26	1.3
I	0.81	0.83
J	3.5	3.56
K	2.53	2.55
L	2.7	2.9
M	0.715	0.725
N	7.05	7.25
O	12.47	12.67
P	15.77	15.97
Q	2.73	2.83
R	0.49	0.51
S	2.05	2.15
T	4.85	4.95
U	6.05	6.15
V	7.9	8.1

Available packages

Package type	Part number	Moisture Sensitivity Level (MSL)	Packaging
TO-220F	RED3070AF	3 (JEDEC J-STD-020)	Tube

Package Marking



TO-220F top-side marking for RED3070

RED3070= Part Number

WXYZ= Lot Code, e.g. AAAA, AAAB

Status

The status of this Datasheet is shown in the footer.

Status	Product Status	Definition
Preview	In development	The Datasheet contains target specifications relating to design and development of the described IC product.
Preliminary	In qualification	The Datasheet contains preliminary specifications relating to functionality and performance of the described IC product.
Production	In production	The Datasheet contains specifications relating to functionality and performance of the described IC product which are supported by testing during development and production.

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