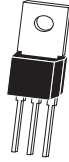




CEN-U45
NPN SILICON
DARLINGTON TRANSISTOR



JEDEC TO-202 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CEN-U45 type is an NPN Silicon Monolithic Darlington Transistor designed for applications requiring high gain and high power dissipation.

MARKING CODE: FULL PART NUMBER

FEATURES:

- High Collector current (2.0A)
- High DC current gain (25K MIN)
- Low Voltage (50V MAX)

APPLICATIONS:

- Designed for general purpose amplifiers and drivers

MAXIMUM RATINGS: (T_A=25°C)

	SYMBOL		UNITS
Collector-Base Voltage	V _{CB0}	50	V
Collector-Emitter Voltage	V _{CEO}	40	V
Collector-Emitter Voltage	V _{CES}	40	V
Emitter-Base Voltage	V _{EBO}	12	V
Collector Current	I _C	2.0	A
Power Dissipation	P _D	2.0	W
Power Dissipation (T _C =25°C)	P _D	10	W
Operating and Storage Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JA}	62.5	°C/W
Thermal Resistance	θ _{JC}	12.5	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

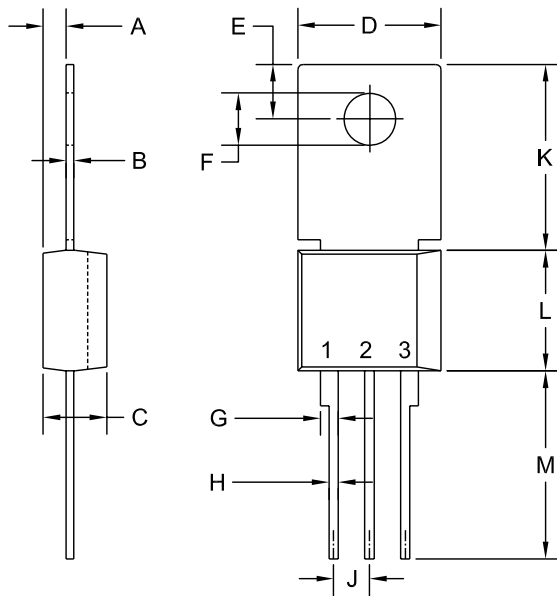
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CB0}	V _{CB} =30V		100	nA
I _{EBO}	V _{EB} =10V		100	nA
BV _{CB0}	I _C =100µA	50		V
BV _{CES}	I _C =100µA	40		V
BV _{EBO}	I _E =10µA	12		V
V _{CE(SAT)}	I _C =1.0A, I _B =2.0mA		1.5	V
V _{CE(SAT)}	I _C =200mA, I _B =2.0mA		1.0	V
V _{BE(SAT)}	I _C =1.0A, I _B =2.0mA		2.0	V
V _{BE(ON)}	V _{CE} =5.0V, I _C =1.0A		2.0	V

R1 (28-August 2007)

ELECTRICAL CHARACTERISTICS: (continued)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=5.0V, I_C=200mA$	25K	150K	
h_{FE}	$V_{CE}=5.0V, I_C=500mA$	15K		
h_{FE}	$V_{CE}=5.0V, I_C=1.0A$	4.0K		
f_T	$V_{CE}=5.0V, I_C=200mA, f=100MHz$	100		MHz
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		8.0	pF

TO-202 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.055	0.071	1.40	1.80
B	0.016	0.024	0.40	0.60
C	0.173	0.181	4.40	4.60
D	0.374	0.413	9.50	10.50
E	0.146	0.154	3.70	3.90
F (DIA)	0.142	0.150	3.60	3.80
G	0.039	0.055	1.00	1.40
H	0.024	0.031	0.60	0.80
J	0.094	0.106	2.39	2.69
K	0.492	0.551	12.50	14.00
L	0.327	0.346	8.30	8.80
M	0.492	0.531	12.50	13.50

TO-202 (REV: R1)

R1

LEAD CODE:

- 1) EMITTER
- 2) BASE
- 3) COLLECTOR

MARKING CODE: FULL PART NUMBER

R1 (28-August 2007)