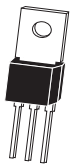
CEN-U45

NPN SILICON
DARLINGTON TRANSISTOR



JEDEC TO-202 CASE

Central™
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

APPLICATIONS:
- Designed for general purpose amplifiers and drivers

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

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS**
Collector-Base Voltage	V_{CBO}	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_{CBO}	V_{CB}=30V		100	nA
I_{EBO}	V_{EB}=10V		100	nA
BV_{CBO}	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)

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CEN-U45

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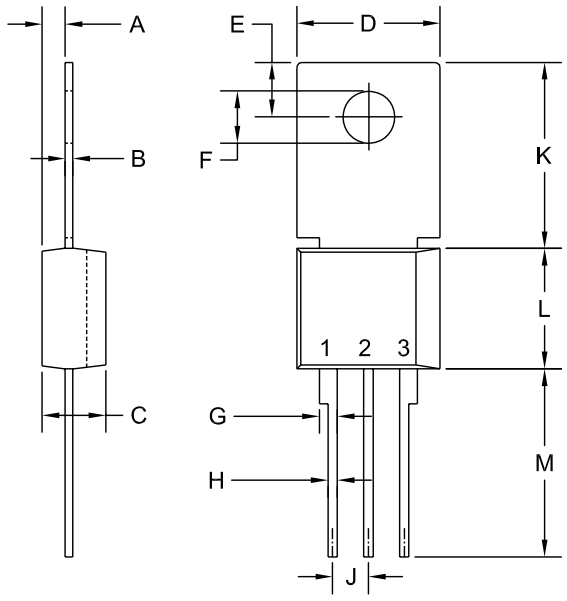
ELECTRICAL CHARACTERISTICS: (continued)

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



R1

DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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)

LEAD CODE:
1) EMITTER
2) BASE
3) COLLECTOR

MARKING CODE: FULL PART NUMBER

R1 (28-August 2007)