



Micro Commercial Components

Micro Commercial Components
20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

2SD2012

NPN Silicon Power Transistors

Features

- High DC Current Gain: $h_{FE(1)}=100$ (Min.)
 - Low Saturation Voltage: $V_{CE(sat)}=1.0V$ (Max.)
 - High Power Dissipation: $P_C=25W$ ($T_C=25^\circ C$)
 - Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix designates RoHS Compliant. See ordering information)
 - Epoxy meets UL 94 V-0 flammability rating
 - Moisture Sensitivity Level 1
- Maximum Ratings
- Mounting Torque: 5 in-lbs Maximum

Symbol	Rating	Rating	Unit
V_{CEO}	Collector-Emitter Voltage	60	V
V_{CBO}	Collector-Base Voltage	60	V
V_{EBO}	Emitter-Base Voltage	7.0	V
I_C	Collector Current	3.0	A
I_B	Base Current	0.5	A
P_C	Collector power dissipation $T_A=25^\circ C$ $T_C=25^\circ C$	2.0 25	W
T_J	Junction Temperature	-55 to +150	$^\circ C$
T_{STG}	Storage Temperature	-55 to +150	$^\circ C$

Electrical Characteristics @ 25°C Unless Otherwise Specified

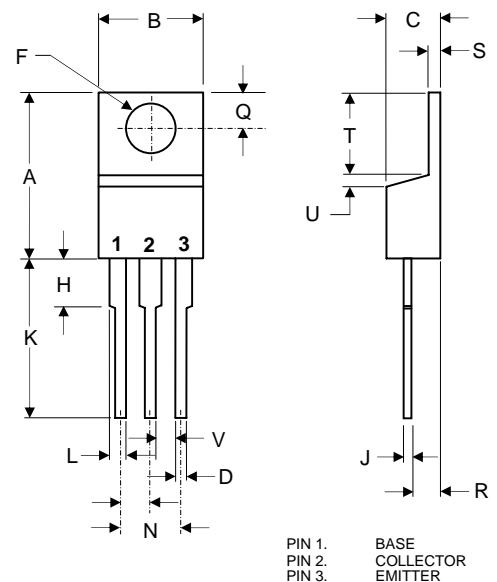
Symbol	Parameter	Min	Typ	Max	Units
OFF CHARACTERISTICS					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ($I_C=50mA$, $I_B=0$)	60	---	---	Vdc
I_{CBO}	Collector-Base Cutoff Current ($V_{CB}=60Vdc$, $I_E=0$)	---	---	100	μA
I_{EBO}	Emitter-Base Cutoff Current ($V_{EB}=7.0Vdc$, $I_C=0$)	---	---	100	μA

ON CHARACTERISTICS

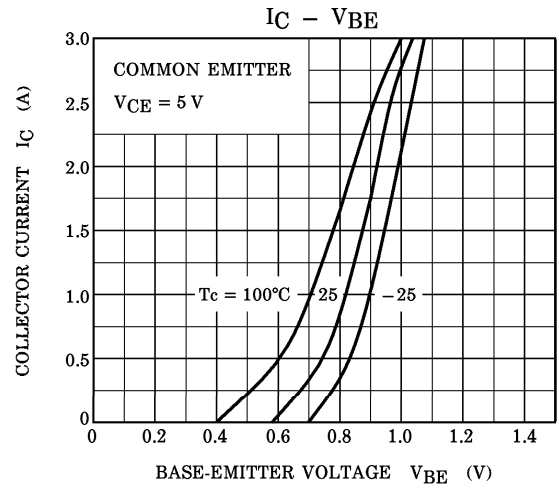
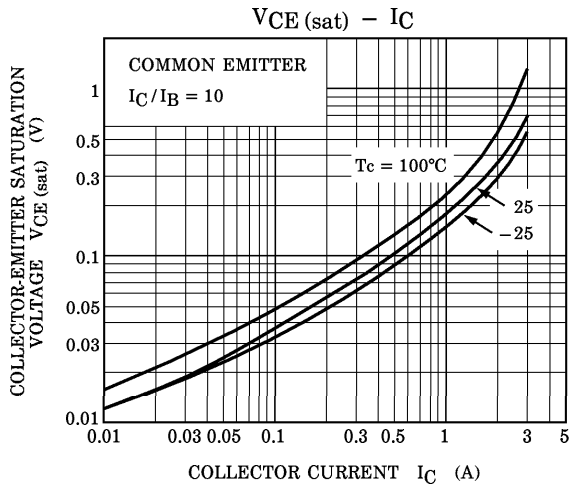
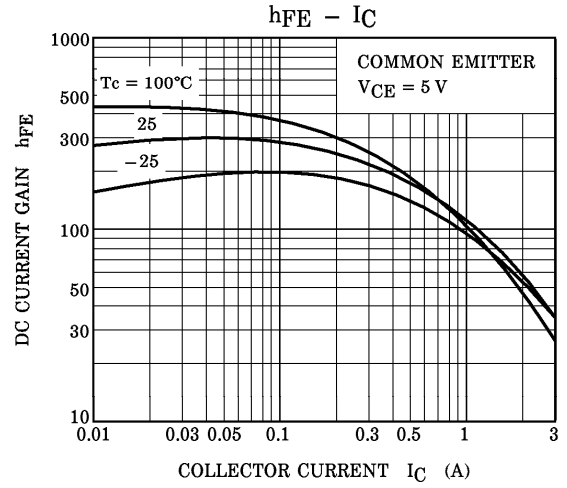
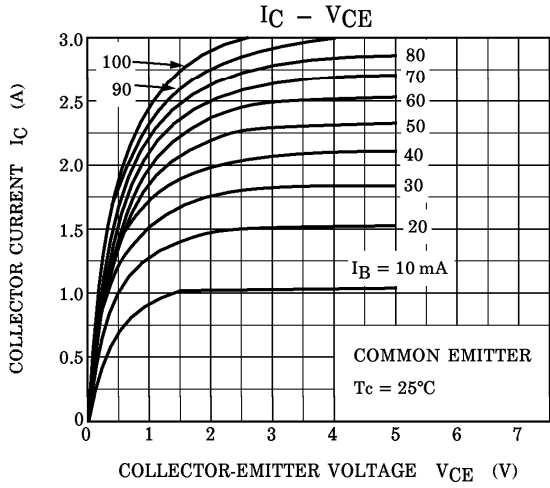
$h_{FE(1)}$	Forward Current Transfer ratio ($I_C=0.5A$, $V_{CE}=5.0Vdc$)	100	---	320	---
$h_{FE(2)}$	Forward Current Transfer ratio ($I_C=2.0A$, $V_{CE}=5.0Vdc$)	20	---	---	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=2.0A$, $I_B=0.2A$)	---	0.4	1.0	Vdc
V_{BE}	Base-Emitter Saturation Voltage ($I_C=0.5A$, $V_{CE}=5.0Vdc$)	---	0.75	1.0	Vdc
f_T	Transition Frequency ($V_{CE}=5.0Vdc$, $I_C=0.5A$)	---	3.0	---	MHz
C_{ob}	Collector Output Capacitance ($V_{CB}=10Vdc$, $I_C=0$, $f=1.0MHz$)	---	35	---	pF

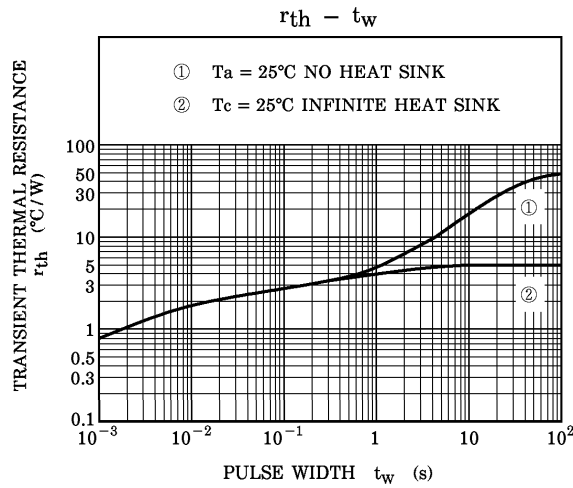
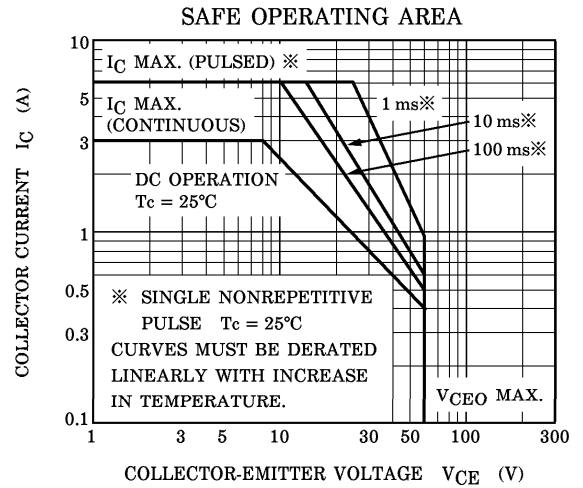
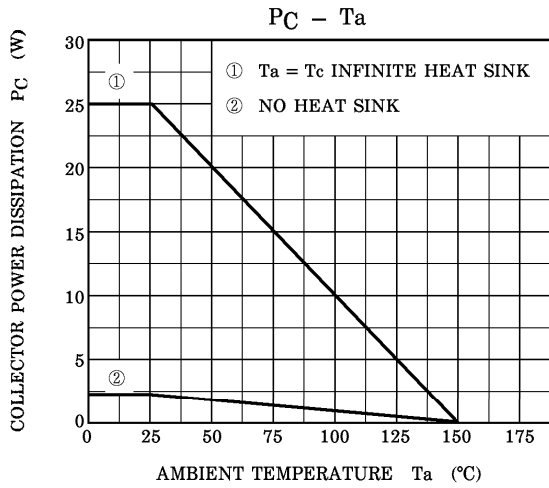
Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex 7.

TO-220



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.560	.625	14.22	15.88	
B	.380	.420	9.65	10.67	
C	.140	.190	3.56	4.82	
D	.020	.045	0.51	1.14	
F	.139	.161	3.53	4.09	∅
G	.190	.110	2.29	2.79	
H	---	.250	---	6.35	
J	.012	.025	0.30	0.64	
K	.500	.580	12.70	14.73	
L	.045	.060	1.14	1.52	
N	.190	.210	4.83	5.33	
Q	.100	.135	2.54	3.43	
R	.080	.115	2.04	2.92	
S	.045	.055	1.14	1.39	
T	.230	.270	5.84	6.86	
U	---	.050	---	1.27	
V	.045	---	1.15	---	







Micro Commercial Components

Ordering Information :

Device	Packing
Part Number-BP	Bulk; 1Kpcs/Box

*****IMPORTANT NOTICE*****

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications, enhancements, improvements, or other changes. **Micro Commercial Components Corp.** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp.** and all the companies whose products are represented on our website, harmless against all damages.

*****LIFE SUPPORT*****

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

*****CUSTOMER AWARENESS*****

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.