



MJE13001

NPN Silicon Plastic-Encapsulate Transistor

Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Capable of 1.0Watts of Power Dissipation.
- Collector-current 0.2A
- Collector-base Voltage 600V
- Operating and storage junction temperature range: -55°C to +150°C
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: 13001

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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OFF CHARACTERISTICS

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ($I_C=1.0mA$, $I_B=0$)	400		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=100\mu A$, $I_E=0$)	600		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=100\mu A$, $I_C=0$)	7.0		Vdc
I_{CBO}	Collector Cutoff Current ($V_{CB}=600Vdc$, $I_E=0$)		100	μA
I_{CEO}	Collector Cutoff Current ($V_{CE}=400Vdc$, $I_B=0$)		200	μA
I_{EBO}	Emitter Cutoff Current ($V_{EB}=7.0Vdc$, $I_C=0$)		100	μA

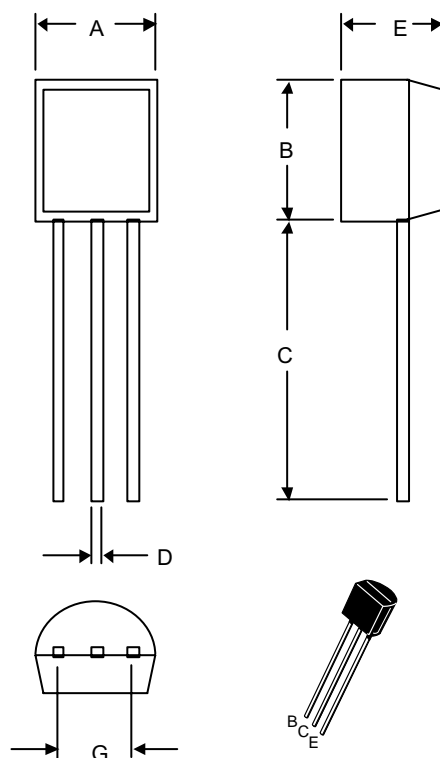
ON CHARACTERISTICS

$h_{FE(1)}$	DC Current Gain ($I_C=20mA$, $V_{CE}=20Vdc$)	10	40	
$h_{FE(2)}$	DC Current Gain ($I_C=0.25mA$, $V_{CE}=10Vdc$)	5.0		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=50mA$, $I_B=10mA$)		0.5	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=50mA$, $I_B=10mA$)		1.2	Vdc
V_{BE}	Base-Emitter Voltage ($I_E=100mA$)		1.1	Vdc

SMALL-SIGNAL CHARACTERISTICS

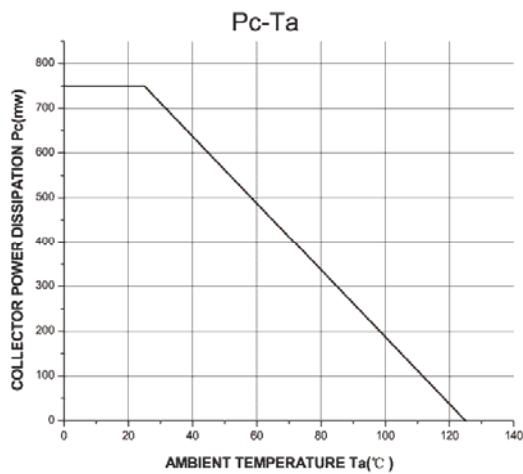
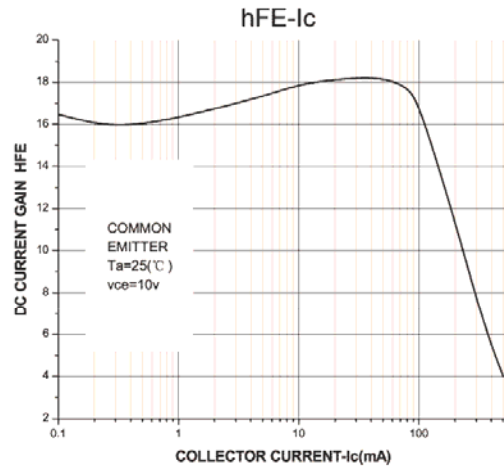
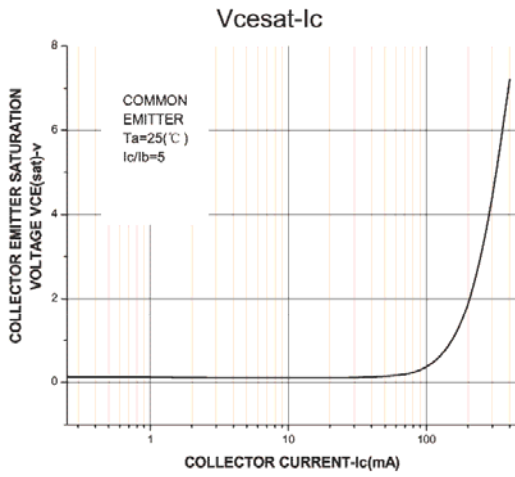
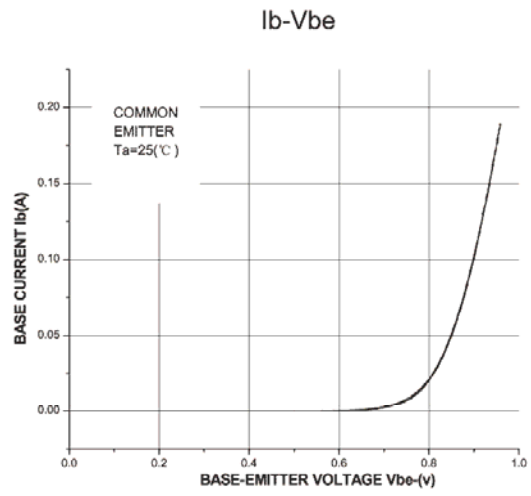
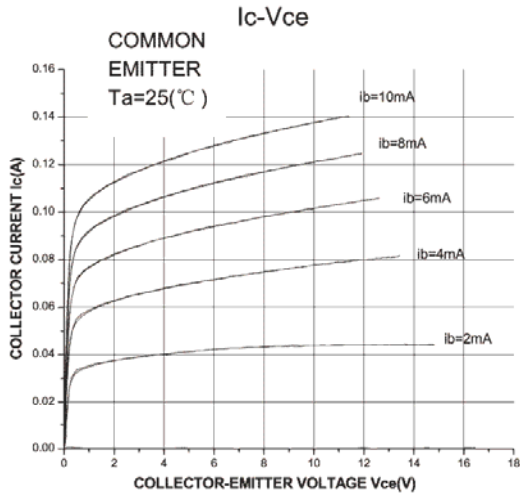
f_T	Transistor Frequency ($I_C=20mA$, $V_{CE}=20Vdc$, $f=1.0MHz$)	8.0		MHz
t_f	Fall Time	$V_{CC}=45V$, $I_C=50mA$	0.3	μS
t_s	Storage Time	$I_{B1}=I_{B2}=5.0mA$	1.5	μS

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DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.175	.185	4.45	4.70	
B	.175	.185	4.46	4.70	
C	.500	---	12.7	---	
D	.016	.020	0.41	0.63	
E	.135	.145	3.43	3.68	
G	.095	.105	2.42	2.67	

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Ordering Information :

Device	Packing
Part Number-AP	Ammo Packing: 2Kpcs/Ammo Box
Part Number-BP	Bulk: 100Kpcs/Carton

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