



Micro Commercial Components
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MJ10012

Features

- With TO-3 package

Maximum Ratings

Symbol	Rating	Rating	Unit
V_{CEO}	Collector-Emitter Voltage	400	V
V_{CBO}	Collector-Base Voltage	600	V
V_{EBO}	Emitter-Base Voltage	8.0	V
I_C	Collector Current	10	A
P_C	Collector power dissipation	175	W
T_J	Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to +200	°C

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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OFF CHARACTERISTICS

$V_{CEO(SUS)}$	Collector-Emitter Breakdown Voltage ($I_C=200mA$, $I_B=0$)	400	---	Vdc
I_{CBO}	Collector-Base Cutoff Current ($V_{CB}=600Vdc$, $I_E=0$)	---	1.0	mA
I_{EBO}	Emitter-Base Cutoff Current ($V_{EB}=6.0Vdc$, $I_C=0$)	---	40	mA
I_{CEO}	Collector-emitter Cutoff Current ($V_{CE}=400V$; $I_B=0$)	---	1.0	mA

ON CHARACTERISTICS

h_{FE}	Forward Current Transfer ratio ($I_C=3.0A$, $V_{CE}=6.0Vdc$) ($I_C=6.0A$, $V_{CE}=6.0Vdc$) ($I_C=10A$, $V_{CE}=6.0Vdc$)	300 100 20	2000	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=3.0A$, $I_B=0.6A$) ($I_C=6.0A$, $I_B=0.6A$) ($I_C=10A$, $I_B=2.0A$)		1.5 2.0 2.5	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=6.0A$, $I_B=0.6A$) ($I_C=10A$, $I_B=2.0A$)		2.5 3.0	Vdc

DYNAMIC CHARACTERISTICS

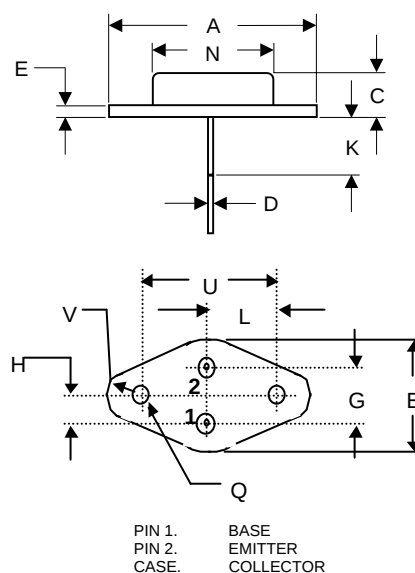
C_{ob}	Output Capacitance ($V_{cb}=10Vdc$, $I_E=0$, $f_{test}=100kHz$)		350	pF
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SWITCHING CHARACTERISTICS

t_s	Storage Time ($V_{CC} = 12 Vdc$, $I_C = 6.0 A$, $I_{B1} = I_{B2} = 0.3 A$)		15	μs
t_f	Fall Time ($V_{CC} = 12 Vdc$, $I_C = 6.0 A$, $I_{B1} = I_{B2} = 0.3 A$)		15	μs

NPN Silicon Power Darlington Transistor

TO-3



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	1.550	REF	39.37	REF	
B	-----	1.050	-----	26.67	
C	.250	.335	6.35	8.51	
D	.038	.043	0.97	1.09	
E	0.55	0.70	1.40	1.77	
G	.430	BSC	10.92	BSC	
H	.215	BSC	5.46	BSC	
K	.440	.480	11.18	12.19	
L	.665	BSC	16.89	BSC	
N	-----	.830	-----	21.08	
Q	.151	.165	3.84	4.19	Ø
U	1.187	BSC	30.15	BSC	
V	.131	.188	3.33	4.77	