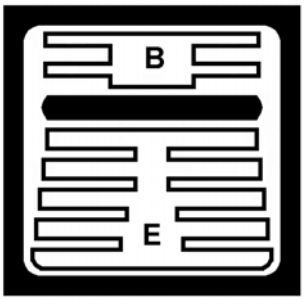
MOSPEC

MJ10012

NPN SILICON
POWER DARLINGTON TRANSISTOR
10 AMPERE , 400 VOLTS

CHIPS DIAGRAM



CHIP STRUCTURE

- Dimensions: 188×214 mils^2
- Bond pad size:
  Emitter: 34×36 mils^2
  Base: 37× 52 mils^2
- Thickness: 11.5~13.5 mils
- Contact Metallization
  Front Side: Alumimum
  Back Side: Silver

MAXIMUM RATINGS

Characteristic	Symbol	Min	Unit
Collector-Base Voltage	V_{CBO}	600	V
Collector-Emitter Voltage(R_{BE}=27Ω)	V_{CER}	550	V
Collector-Emitter Voltage	$V_{CEO(SUS)}$	400	V
Emitter-Base Voltage	V_{EBO}	8	V
Collector Current-Continuous	I_C	10	A
Base Current	I_B	2	A
Operating Junction and Storage Temperature Range	T_j, T_{stg}	-65 to +200	^oC

ELECTRICAL CHARATERISTICS (T_C=25℃ unless otherwise notes)

Characteristic	Symbol	Min	Max	Unit
Collector-Emitter Sustaining Voltage (I_C = 200 mA , I_B =0,V_{clamp}=Rate V_{CEO})	$V_{CEO(SUS)}$	400		V
Collector-Emitter Sustaining Voltage (I_C = 200 mA , I_B =0 , R_{BE}=27Ω , V_{clamp}=Rate V_{CER})	$V_{CER(SUS)}$	425		V
Collector Cutoff Current (Rate V_{CER} , R_{BE}=27Ω)	I_{CER}		1.0	mA
Collector Cutoff Current (Rate V_{CBO} , I_E =0)	I_{CBO}		1.0	mA
Emitter Cutoff Current (V_{EB} = 6 V , Ic =0)	I_{EB0}		40	mA
DC Current Gain (I_C = 3 A , V_{CE} =6 V) (I_C = 6 A , V_{CE} =6 V) (I_C = 10 A , V_{CE} =6 V)	h_{FE}	300 100 20	2000	
Collector-Emitter Saturation Voltage (I_C = 3 A , I_B =300 mA) (I_C = 6 A , I_B =600 mA) (I_C = 10 A , I_B = 2 A)	$V_{CE(SAT)}$		1.5 2.0 2.5	V
Base-Emitter Saturation Voltage (I_C = 6 A , I_B =600 mA) (I_C = 10 A , I_B = 2 A)	$V_{BE(SAT)}$		2.5 3.0	V
Base-Emitter on Voltage (I_C = 10 A , V_{CE} =6 V)	$V_{BE(ON)}$		2.8	V
Diode Forward Voltage (I_F = 10 A)	V_F		3.5	V

Pluse Test: Pluse width = 300uS , Duty Cycle ≦ 2.0%

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