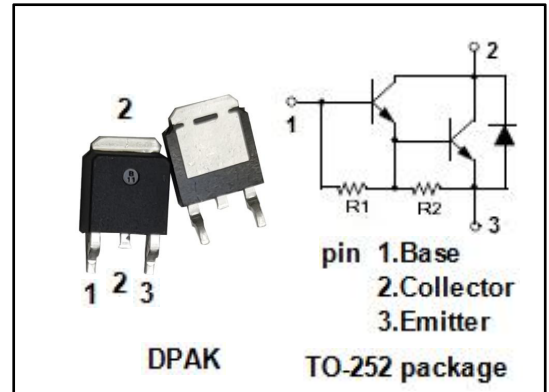


isc Silicon NPN Darlington Power Transistor
MJD44E3
DESCRIPTION

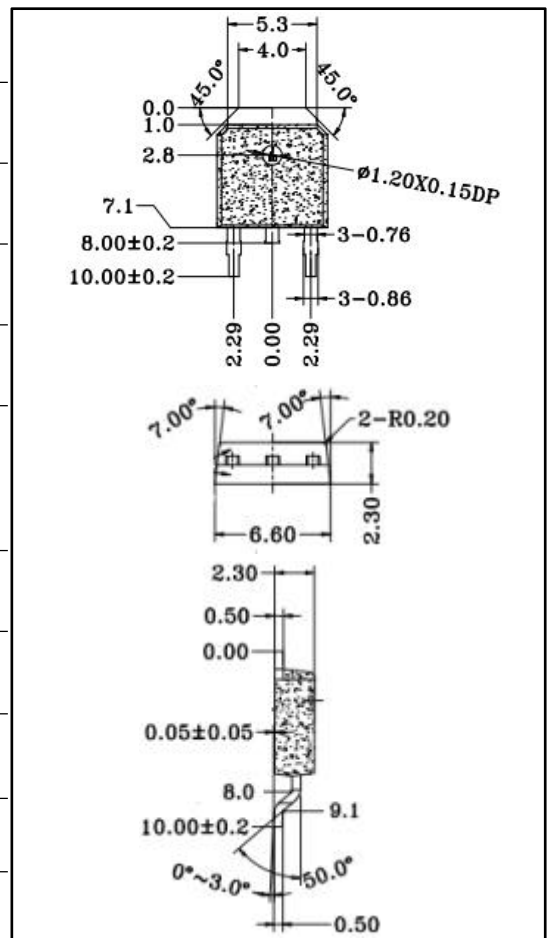
- High DC Current Gain
: $h_{FE} = 1000(\text{Min}) @ I_C = 5A$
- Low Collector-Emitter Saturation Voltage
: $V_{CE(\text{sat})} = 1.5V(\text{Max}) @ I_C = 5A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for general-purpose amplifier and low-speed switching applications


ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	10	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	20	W
	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	1.75	
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$


THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{\text{th } j-c}$	Thermal Resistance, Junction to Case	6.25	$^\circ\text{C/W}$

isc Silicon NPN Darlington Power Transistor

MJD44E3

ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 30mA; I _B = 0	80		V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 5A ; I _B = 10mA		1.5	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 10A ; I _B = 20mA		1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 5A ; I _B = 10mA		2.5	V
I _{CES}	Collector Cutoff Current	V _{CE} =Rated V _{CEO} ; V _{BE} = 0		10	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 7.0V; I _C = 0		1.0	μ A
h _{FE-1}	DC Current Gain	I _C = 5A ; V _{CE} = 5V	1000		

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