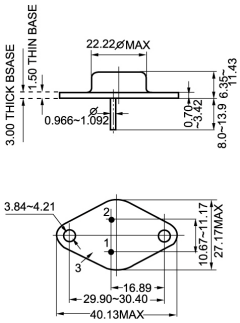
MJ10023 Silicon NPN Power Darlington Transistor

GENERAL DESCRIPTION

Daringtion transistor are designed for use as general purpose amplifiers, switching and motor control applications.



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QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	TYP	MAX	UNIT
V_{CESM}	Collector-emitter voltage peak value	V_{BE} = 0V	-	600	V
V_{CEO}	Collector-emitter voltage (open base)		-	400	V
I_C	Collector current (DC)		-	40	A
I_{CM}	Collector current peak value		-	80	A
P_{tot}	Total power dissipation	T_{mb}≤25℃	-	250	W
V_{CEsat}	Collector-emitter saturation voltage	I_C = 20A; I_B = 1.2A	-	6.0	V
I_{csat}	Collector saturation current	f = 16KHz		-	A
V_F	Diode forward voltage	I_F = 20A		5	V
t_f	Fall time	I_C=20A,I_{B1}=1.2A,V_{CC}=250V		1.0	μs

LIMITING VALUES

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V_{CESM}	Collector-emitter voltage peak value	V_{BE} = 0V	-	600	V
V_{CEO}	Collector-emitter voltage (open base)		-	400	V
I_C	Collector current (DC)		-	40	A
I_{CM}	Collector current peak value		-	80	A
I_B	Base current (DC)		-	20	A
I_{BM}	Base current peak value		-	40	A
P_{tot}	Total power dissipation	Tmb≤25℃	-	250	W
T_{stg}	Storage temperature		-55	150	℃
T_j	Junction temperature		-	150	℃

ELECTRICAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	TYP	MAX	UNIT
I_{CE}	Collector cut-off current	V_{BE} = 0V; V_{CE} = V_{CEmax}	-	2.0	mA
I_{CES}		V_{BE} = 0V; V_{CE} = V_{CEmax} T_j = 125℃	-	5.0	mA
$V_{CEOsust}$	Collector-emitter sustaining voltage	I_B = 0A; I_C = 100mA L = 25mH	-		V
V_{CEsat}	Collector-emitter saturation voltages	I_C = 20A; I_B = 1.2A	-	6	V
V_{BEsat}	Base-emitter satuation voltage	I_C = 20A; I_B = 1.2A	-	3.5	V
h_{FE}	DC current gain	I_C = 10A; V_{CE} = 5V	300		
V_F	Diode forward voltage	I_F = 20A	2.5	5.0	V
f_T	Transition frequency at f = 5MHz			-	MHz
C_c	Collector capacitance at f = 1MHz	V_{CB} = 10V		600	pF
t_s	Switching times(16KHz line deflecton circuit)	I_C=20A,I_{B1}=1.2A,V_{CC}=250V	1.0	3.0	μs
t_f	Turn-off storage time Turn-off fall time	I_C=20A,I_{B1}=1.2A,V_{CC}=250V	0.3	1.0	μs

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