

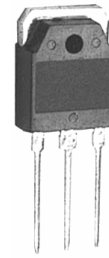


2SD1403

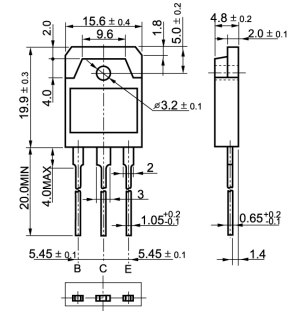
Silicon Diffused Power Transistor

GENERAL DESCRIPTION

High voltage, high-speed switching npn transistors in a plastic envelope with integrated efficiency diode, primarily for use in horizontal deflection circuits of colour television receivers



MT-100



QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	TYP	MAX	UNIT
V _{CESM}	Collector-emitter voltage peak value	V _{BE} = 0V	-	1500	V
V _{CEO}	Collector-emitter voltage (open base)		-	600	V
I _C	Collector current (DC)		-	6	A
I _{CM}	Collector current peak value		-	12	A
P _{tot}	Total power dissipation	T _{mb} ≤ 25°C	-	120	W
V _{CEsat}	Collector-emitter saturation voltage	I _C = 4.0A; I _B = 1.0A	-	5.0	V
I _{csat}	Collector saturation current	f = 16KHz	-	-	A
V _F	Diode forward voltage	I _F = 5.0A	1.6	2.0	V
t _f	Fall time	I _{Csat} = 5.0A; f = 16KHz	0.4	-	μs

LIMITING VALUES

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CESM}	Collector-emitter voltage peak value	V _{BE} = 0V	-	1500	V
V _{CEO}	Collector-emitter voltage (open base)		-	600	V
I _C	Collector current (DC)		-	6	A
I _{CM}	Collector current peak value		-	12	A
I _B	Base current (DC)		-	-	A
I _{BM}	Base current peak value		-	-	A
P _{tot}	Total power dissipation	T _{mb} ≤ 25°C	-	120	W
T _{sta}	Storage temperature		-55	150	°C
T _j	Junction temperature		-	150	°C

ELECTRICAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	TYP	MAX	UNIT
I _{CE}	Collector cut-off current	V _{BE} = 0V; V _{CE} = V _{CESMmax}	-	1.0	mA
I _{CES}		V _{BE} = 0V; V _{CE} = V _{CESMmax}	-	2.0	mA
V _{CEOsust}	Collector-emitter sustaining voltage	T _j = 125°C I _B = 0A; I _C = 100mA L = 25mH	-	-	V
V _{CEsat}	Collector-emitter saturation voltages	I _C = 4.0A; I _B = 1.0A	-	5.0	V
V _{BEsat}	Base-emitter saturation voltage	I _C = 4.0A; I _B = 1.0A	-	1.1	V
h _{FE}	DC current gain	I _C = 1.0A; V _{CE} = 5V	8	-	
V _F	Diode forward voltage	I _F = 5.0A	1.6	2.0	V
f _T	Transition frequency at f = 5MHz	I _C = 0.1A; V _{CE} = 10V	2	-	MHz
C _c	Collector capacitance at f = 1MHz	V _{CB} = 10V	100	-	pF
t _s	Switching times (16KHz line deflection circuit)	I _{Csat} = 5.0A; L _c = 1mH; C _{fb} = 4nF	-	-	μs
t _f	Turn-off storage time Turn-off fall time	I _{B(end)} = 1.0A; I _C = 5.0A; V _{CC} = 105V	0.4	1.0	μs