

Medium Power Transistor

Features

- Low $V_{CE(sat)}$, $V_{CE(sat)} = 0.5V$ (typical)
($I_c = 1.5A$, $I_B = 0.2A$).

hFE Classification

Marking	DB		
Rank	P	Q	R
hFE	82~180	120~270	180~390

Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	40	V
Collector-emitter voltage	V_{CEO}	32	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_c	1.5	A
	I_c (Pulse) *1	2.5	A
Collector power dissipation	P_c	0.5	W
	P_c *2	2	W
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{stg}	-55 to +150	$^\circ C$

*1. $P_w = 20ms$.

*2. 40X40X 0.7mm Ceramic board.

Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base voltage	BV_{CBO}	$I_c = 50\mu A$	40			V
Collector-emitter voltage	BV_{CEO}	$I_c = 1mA$	32			V
Emitter-base voltage	BV_{EBO}	$I_E = 50\mu A$	5			V
Collector cutoff current	I_{CBO}	$V_{CB} = 20V$			1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 4V$			1	μA
Forward current transfer ratio	hFE	$V_{CE} = 3V, I_c = 0.5A$	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = 2A, I_B = 0.2A$		0.5	0.8	V
Transition frequency	f_T	$V_{CE} = 5V, I_E = -500mA, f = 100MHz$		100		MHz
Output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0A, f = 1MHz$		30		pF

