

YOU DA TRANSISTOR

D2012

Si NPN TRANSISTOR—D2012

DESCRIPTION AND FEATURES

*Collector-Emitter voltage: $BV_{CBO} = 60V$

*Collector current up to 3A

*High h_{FE} linearity

PIN CONFIGURATIONS

PIN	SYMBOL
1	Emitter
2	Collector
3	Base

ABSOLUTE MAXIMUM RATINGS ($T_{amb}=25^\circ C$)

PARAMETER		SYMBOL	VALUE	UNIT
Collector-Base Voltage		BV_{CBO}	60	V
Collector-Emitter Voltage		BV_{CEO}	50	V
Emitter-Base Voltage		BV_{EBO}	7	V
Collector Dissipation	$T_{case}=25$	P_{CM}	30	W
	$T_{amb}=25$		1.5	W
Collector Current	DC	I_{CM}	3	A
	Pulse	I_{cp}	7	A
Base Current		I_B	0.6	A
Junction Temperature		T_j	+150	
Storage Temperature		T_{stg}	-55 ~ +150	

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^\circ C$, all voltage referenced to GND Unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-Off Current	I_{CBO}	$V_{CB}=50V, I_E=0$			100	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5V, I_C=0$			100	nA
DC Current Gain	h_{FE1}	$V_{CE}=5V, I_C=20mA$	30	200		
	h_{FE2}	$V_{CE}=5V, I_C=0.5A$	100		400	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=3A, I_B=0.3A$		0.3	0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=2A, I_B=0.2A$		1.0	2.0	V
Current Gain Bandwidth Product	f_T	$V_{CE}=5V, I_C=0.1A$		5		MHz
Output Capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		80		pF

CLASSIFICATION OF h_{FE}

RANK	Q	P	E
RANGE	100 ~ 200	160 ~ 320	200 ~ 400

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