#### THERMAL DATA

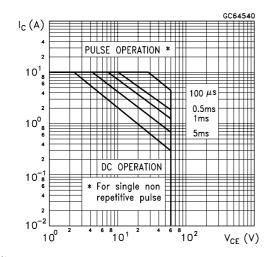
R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	6.25	°C/W
R <sub>thj-amb</sub>	Thermal Resistance Junction-ambient	Max	100	°C/W

## **ELECTRICAL CHARACTERISTICS** (T<sub>case</sub> = 25 °C unless otherwise specified)

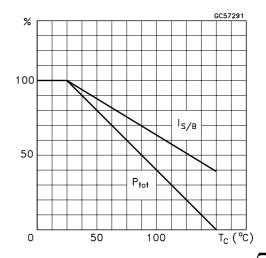
Symbol	Parameter	Test Conditions	Min.	Тур.	Max.	Unit
I <sub>CEX</sub>	Collector Cut-off Current (V <sub>BE</sub> = -1.5 V)	$V_{CE} = 70 \text{ V}$ $V_{CE} = 70 \text{ V}$ $T_j = 150  ^{\circ}\text{C}$			20 2	μA mA
I <sub>CBO</sub>	Collector Cut-off Current (I <sub>E</sub> = 0)	$V_{CB} = 70 \text{ V}$ $V_{CB} = 70 \text{ V}$ $T_j = 150 ^{\circ}\text{C}$			20 2	μA mA
I <sub>CEO</sub>	Collector Cut-off Current (I <sub>B</sub> = 0)	V <sub>CE</sub> = 30 V			50	μА
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = 5 V			0.5	mA
V <sub>CEO(sus)*</sub>	Collector-Emitter Sustaining Voltage (I <sub>B</sub> = 0)	I <sub>C</sub> = 30 mA	60			V
V <sub>CE(sat)</sub> *	Collector-Emitter Saturation Voltage	$I_C = 4 \text{ A}$ $I_B = 0.4 \text{ A}$ $I_C = 10 \text{ A}$ $I_B = 3.3 \text{ A}$			1.1 8	V V
V <sub>BE(on)</sub> *	Base-Emitter Voltage	$I_C = 4 A$ $V_{CE} = 4 V$			1.8	V
h <sub>FE</sub> *	DC Current Gain	I <sub>C</sub> = 4 A	20 5		100	
f⊤	Transition Frequency	Ic = 0.5 A V <sub>CE</sub> = 10 V f = 500 KHz	2			MHz

<sup>\*</sup> Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %

## Safe Operating Area



## **Derating Curves**

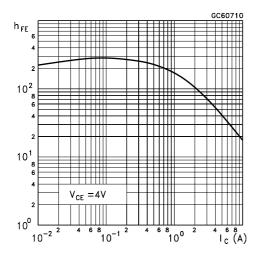


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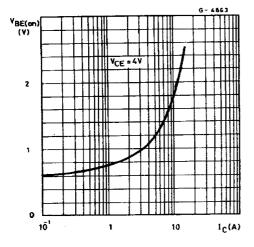
Downloaded from Arrow.com.

For PNP type voltage and current values are negative.

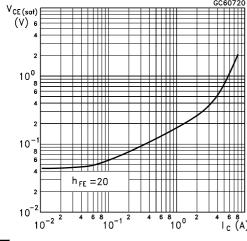
#### DC Current Gain (NPN type)



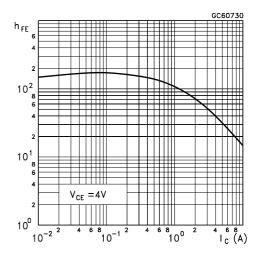
DC Transconductance (NPN type)



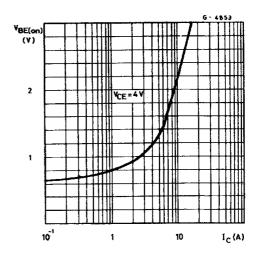
Collector-Emitter Saturation Voltage (NPN type)



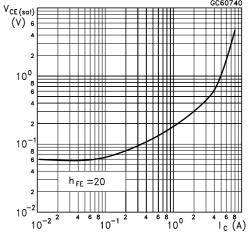
DC Current Gain (PNP type)



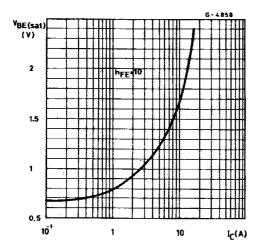
DC Transconductance (PNP type)



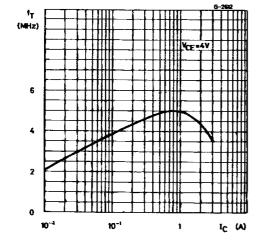
Collector-Emitter Saturation Voltage (PNP type)



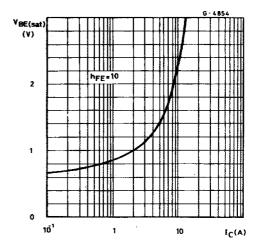
## Base-Emitter Saturation Voltage (NPN type)



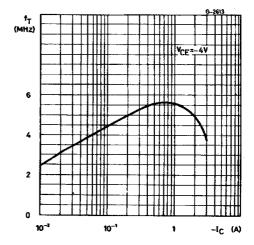
Transition Frequency (NPN type)



## Base-Emitter Saturation Voltage (PNP type)

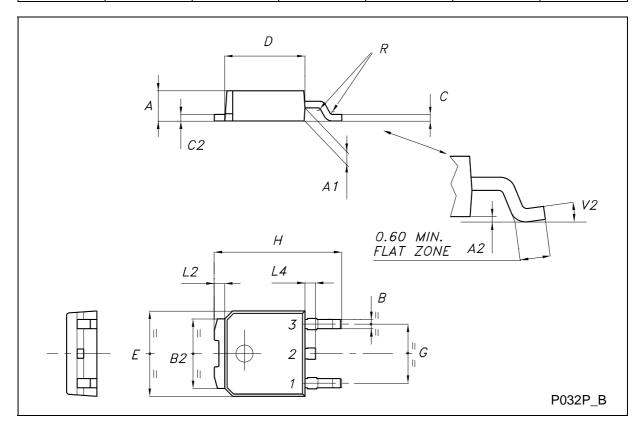


Transition Frequency (PNP type)



# **TO-252 (DPAK) MECHANICAL DATA**

DIM.	mm			inch			
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
А	2.20		2.40	0.087		0.094	
A1	0.90		1.10	0.035		0.043	
A2	0.03		0.23	0.001		0.009	
В	0.64		0.90	0.025		0.035	
B2	5.20		5.40	0.204		0.213	
С	0.45		0.60	0.018		0.024	
C2	0.48		0.60	0.019		0.024	
D	6.00		6.20	0.236		0.244	
Е	6.40		6.60	0.252		0.260	
G	4.40		4.60	0.173		0.181	
Н	9.35		10.10	0.368		0.398	
L2		0.8			0.031		
L4	0.60		1.00	0.024		0.039	
V2	0°		8°	0°		0°	



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