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F K 3

Symbol	Parameter	Value	Units
$V_{CES}$	Collector-Emitter Voltage	700	V
$V_{GES}$	Gate- Emitter Voltage	$\pm 30$	V
$I_C$	Collector Current	160	A
	Collector Current @ $T_C = 100\text{ }^\circ\text{C}$	80	
$I_{Cpuls}$	Pulsed Collector Current $t_p$ limited by $T_{jmax}$	320	
-	Turn off safe operating area $V_{CE}=650V$ $T_J=175^\circ\text{C}$	320	

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Symbol	Characterizes	Typ.	Max.	Units
	Thermal Resistance, Junction-to-case for IGBT			°C
	Thermal Resistance, Junction-to-case for Diode			°C
	Thermal Resistance, Junction-to-ambient			°C

°C

Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
V <sub>(BR)CES</sub>	Collector-Emitter Breakdown Voltage	700			V	V <sub>GE</sub> =0V, I <sub>CE</sub> =1mA
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage		1.58	1.85	V	I <sub>C</sub> =80A, V <sub>GE</sub> =15V @ T <sub>J</sub> =25°C
V <sub>GE(th)</sub>	Gate Threshold Voltage	4.5		6.5	V	I <sub>C</sub> =250    C <sub>E</sub> =V <sub>GE</sub>
I <sub>CES</sub>	Collector-Emitter Leakage Current			1	A	V <sub>GE</sub> =0V, V <sub>CE</sub> =650V
I <sub>GES</sub>	Gate to Emitter Reverse Leakage			100 -100	nA	V <sub>GE</sub> =20V, V <sub>CE</sub> =0V V <sub>GE</sub> =-20V, V <sub>CE</sub> =0V
C <sub>ies</sub>	Input capacitance		7356		pF	V <sub>GS</sub> = 0V V <sub>DS</sub> = 25V 1MHz
C <sub>oes</sub>	Output capacitance		250			
C <sub>res</sub>	Reverse transfer capacitance		149			
t <sub>d(on)</sub>	Turn-on delay time				ns	V <sub>CC</sub> =400V, I <sub>C</sub> =80A, V <sub>GE</sub> =0/15V, R <sub>g</sub> =10
t <sub>r</sub>	Rise time					
t <sub>d(off)</sub>	Turn-Off delay time					
t <sub>f</sub>	Fall time					
E <sub>on</sub>	Turn-On Switching Loss				mJ	V <sub>CC</sub> =400V, I <sub>C</sub> =80A, V <sub>GE</sub> =0/15V, R <sub>g</sub> =10
E <sub>off</sub>	Turn-Off Switching Loss					
E <sub>ts</sub>	Total Switching Loss					
Q <sub>g</sub>	Total Gate Charge				nC	V <sub>CC</sub> =480V, I <sub>C</sub> =80A, V <sub>GE</sub> =15V
Q <sub>ge</sub>	Gate to Emitter Charge					
Q <sub>gc</sub>	Gate to Collector Charge					
I <sub>C(SC)</sub>	Short circuit collector current Max. 1000 short circuits Time between short circuits: 1.0s				A	V <sub>GE</sub> =15V, V <sub>CC</sub> 400V, t <sub>sc</sub> 7 s

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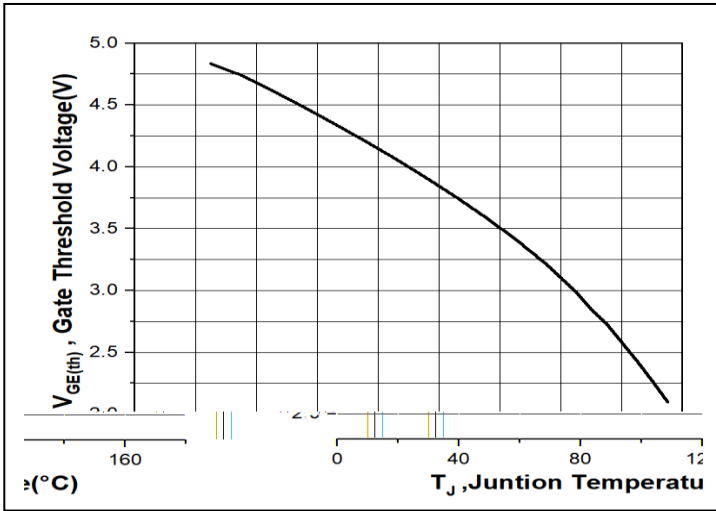
Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
V <sub>FM</sub>	Diode Forward Voltage		1.7	3	V	I <sub>F</sub> =80A
t <sub>rr</sub>	Reverse Recovery Time		106		ns	T <sub>J</sub> = 25°C, I <sub>F</sub> =80A, V <sub>R</sub> =400V V <sub>GE</sub> =0/15V
Q <sub>rr</sub>	Reverse Recovery Charge		1.31			
I <sub>RRM</sub>	Diode Peak Reverse Recovery Current		24.7		A	





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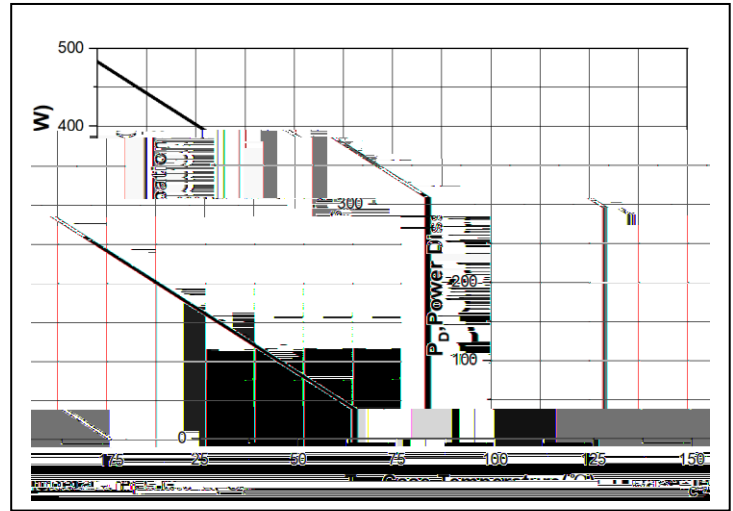


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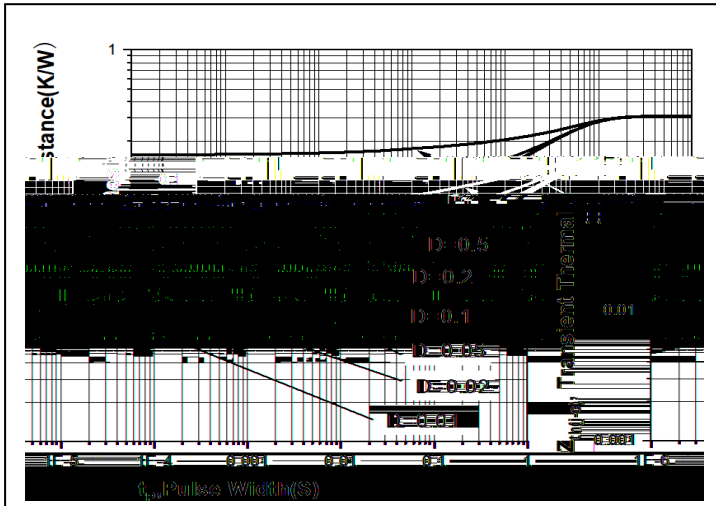
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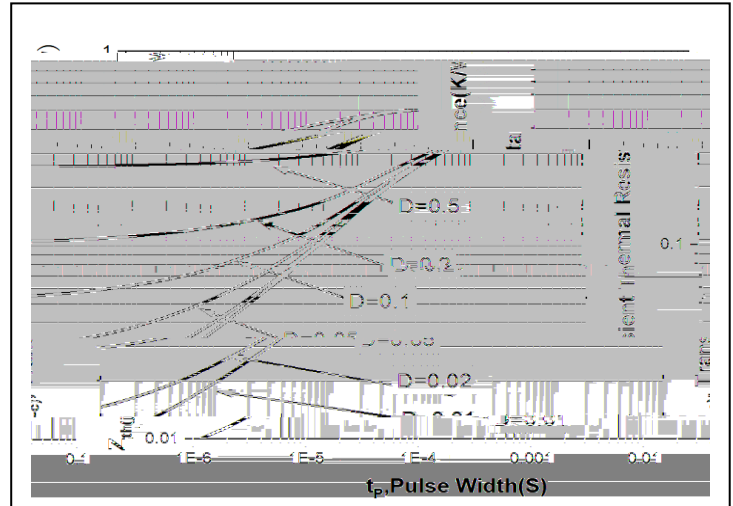
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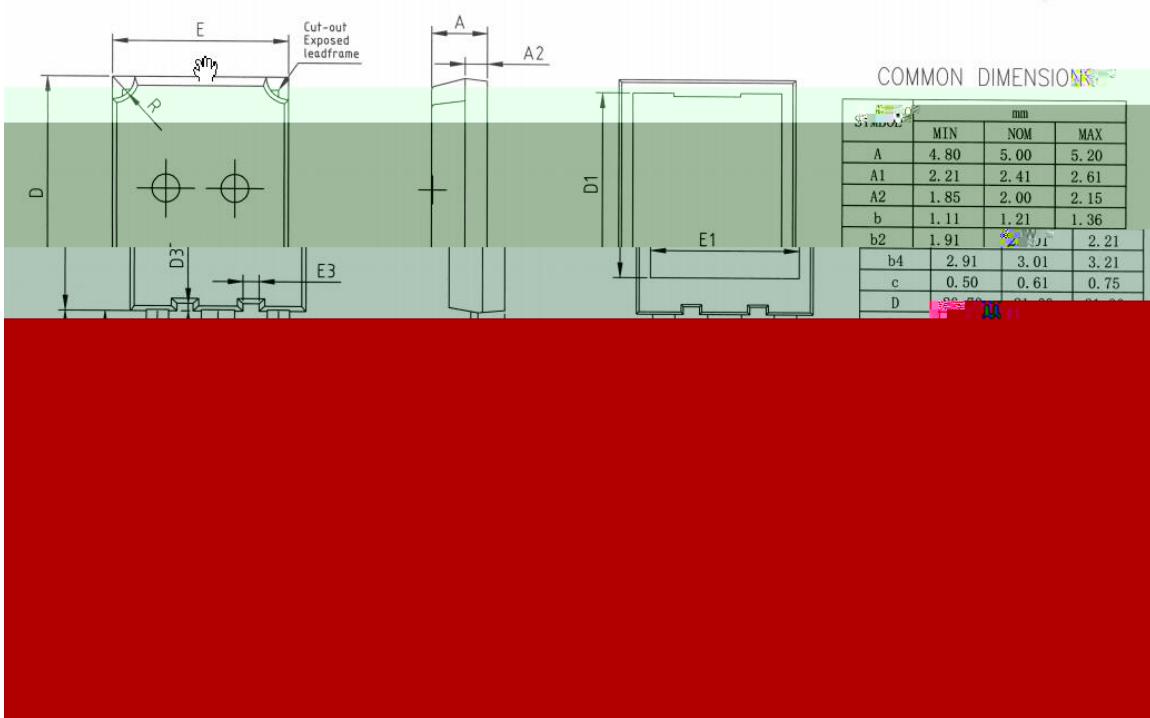


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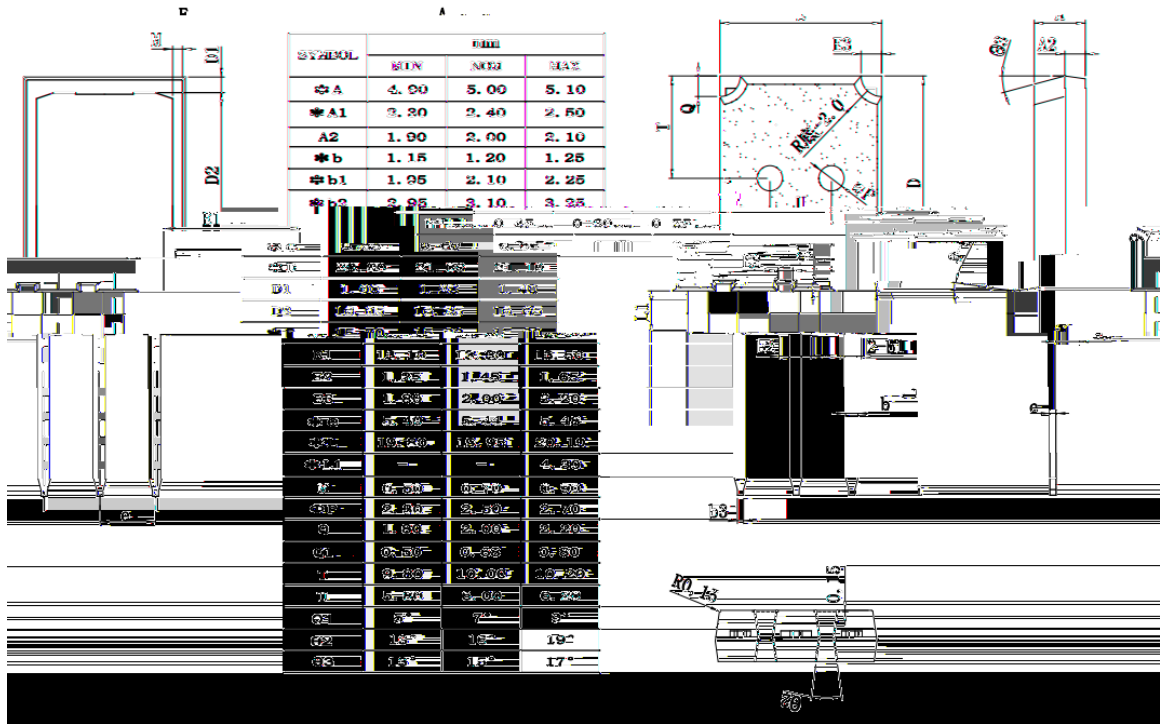
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