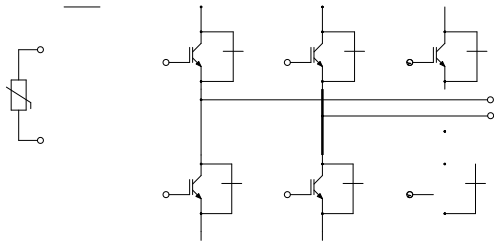




**120V**  
**25A**

**MicroDiodes**  
**AC and DC semiconductor amplifier**  
**UPS (Uninterruptible Power Supplies)**



**Low switching losses**  
**Low  $V_{CE(sat)}$  with positive temperature coefficient**  
**Including fast & soft recovery anti-parallel FWD**  
**Low inductance case**  
**High short-circuit capability (10s)**  
**Maximum junction temperature 175°C**

<b>Collector-Emitter Voltage</b>	<b><math>V_{CES}</math></b>	<b><math>V_{GE}=0V, I_C=1mA, T_J=25</math></b>	<b>120</b>	<b>V</b>
<b>Continuous Collector Current</b>	<b><math>I_C</math></b>	<b><math>T_C=100</math> <small><math>T_{Jmax}</math></small> <b>175</b></b>	<b>25</b>	<b>A</b>
<b>Repetitive Peak Collector Current</b>	<b><math>I_{CRM}</math></b>	<b><math>t_p=1ms</math></b>	<b>50</b>	<b>A</b>
<b>Gate-Emitter Voltage</b>	<b><math>V_{GES}</math></b>	<b><math>T_J=25</math></b>	<b>20</b>	<b>V</b>
<b>Total Power Dissipation</b>	<b><math>P_{tot}</math></b>	<b><math>T_C=25</math> <math>T_{Jmax}=175</math></b>	<b>166</b>	<b>W</b>



<b>Gate-emitter Threshold Voltage</b>	$V_{GE(th)}$	$V_{GE}=V_{CE}, I_C=12mA, T_j=25$	<b>52</b>	<b>60</b>	<b>68</b>	<b>V</b>
<b>Collector-Emitter Cut-off Current</b>	$I_{CS}$	$V_{CE}=120V, V_{GE}=0V, T_j=25$			<b>10</b>	<b>nA</b>
<b>Collector-Emitter Saturation Voltage</b>	$V_{CE(sat)}$	$I_C=25A, V_{GE}=15V, T_j=25$		<b>185</b>	<b>225</b>	<b>V</b>
		$I_C=25A, V_{GE}=15V, T_j=125$		<b>215</b>		
		$I_C=25A, V_{GE}=15V, T_j=150$		<b>225</b>		
<b>Gate Charge</b>	$Q_g$			<b>020</b>		<b><math>\mu C</math></b>
<b>Input Capacitance</b>	$C_{is}$	$V_{CE}=25V, V_{GE}=0V$		<b>145</b>		<b>rF</b>
<b>Reverse Transfer Capacitance</b>	$C_{es}$	$f=1MHz, T_j=25$		<b>005</b>		<b>rF</b>
<b>Gate-Emitter leakage current</b>	$I_{GS}$	$V_{CE}=0V, V_{GE}=20V, T_j=25$			<b>40</b>	<b>nA</b>
<b>Turn-on Delay/line</b>	$t_{on}$	$I_C=25A$ $V_{CE}=60V$ $V_{GE}=\pm 15V$ $R_G=18$ $T_j=25$		<b>158</b>		<b>ns</b>
<b>Rise time</b>	$t_r$			<b>32</b>		<b>ns</b>
<b>Turn-off Delay/line</b>	$t_{off}$			<b>331</b>		<b>ns</b>
<b>Fall time</b>	$t_f$			<b>8</b>		<b>ns</b>
<b>Energy Dissipation During Turn-on/line</b>	$E_{on}$			<b>180</b>		<b>nJ</b>
<b>Energy Dissipation During Turn-off/line</b>	$E_{off}$			<b>140</b>		<b>nJ</b>
<b>Turn-on Delay/line</b>	$t_{on}$	$I_C=25A$ $V_{CE}=60V$ $V_{GE}=\pm 15V$ $R_G=18$ $T_j=125$		<b>172</b>		<b>ns</b>
<b>Rise time</b>	$t_r$			<b>45</b>		<b>ns</b>
<b>Turn-off Delay/line</b>	$t_{off}$			<b>154</b>		<b>ns</b>
<b>Fall time</b>	$t_f$			<b>212</b>		<b>ns</b>
<b>Energy Dissipation During Turn-on/line</b>	$E_{on}$			<b>24</b>		<b>nJ</b>
<b>Energy Dissipation During Turn-off/line</b>	$E_{off}$			<b>218</b>		<b>nJ</b>
<b>SCData</b>	$I_C$	$T_p=10s, V_{CE}=15V, T_j=150, V_{CE}=90V, V_{CEM}=120V$		<b>120</b>		<b>A</b>



<b>Repetitive Peak Reverse Voltage</b>	<b>V<sub>RRM</sub></b>	<b>T<sub>J</sub>=25</b>	<b>120</b>	<b>V</b>
<b>Continuous DC Forward Current</b>	<b>I<sub>F</sub></b>		<b>25</b>	<b>A</b>
<b>Repetitive Peak Forward Current</b>	<b>I<sub>FRM</sub></b>	<b>t<sub>p</sub>=1ms</b>	<b>50</b>	<b>A</b>
<b>R<sub>θ</sub> value</b>	<b>R<sub>θ</sub></b>	<b>V<sub>F</sub>=0, t<sub>p</sub>=10ms, T<sub>J</sub>=125</b>	<b>900</b>	<b>°C/W</b>
		<b>V<sub>F</sub>=0, t<sub>p</sub>=10ms, T<sub>J</sub>=150</b>	<b>750</b>	

<b>Forward Voltage</b>	<b>V<sub>F</sub></b>	<b>I<sub>F</sub>=25A, T<sub>J</sub>=25</b>		<b>210</b>	<b>250</b>	<b>V</b>
		<b>I<sub>F</sub>=25A, T<sub>J</sub>=125</b>		<b>220</b>		
		<b>I<sub>F</sub>=25A, T<sub>J</sub>=150</b>		<b>220</b>		
<b>Recovered Charge</b>	<b>Q<sub>r</sub></b>	<b>I<sub>F</sub>=25A</b>		<b>252</b>		<b>μC</b>
<b>Peak Reverse Recovery Current</b>	<b>I<sub>r</sub></b>	<b>V<sub>r</sub>=60V</b> <b>-d<sub>v</sub>/d<sub>t</sub>=680A/s</b>		<b>285</b>		<b>A</b>
<b>Reverse Recovery Energy</b>	<b>E<sub>rec</sub></b>	<b>T<sub>J</sub>=25</b>		<b>091</b>		<b>mJ</b>
<b>Recovered Charge</b>	<b>Q<sub>r</sub></b>	<b>I<sub>F</sub>=25A</b>		<b>508</b>		<b>μC</b>
<b>Peak Reverse Recovery Current</b>	<b>I<sub>r</sub></b>	<b>V<sub>r</sub>=60V</b> <b>-d<sub>v</sub>/d<sub>t</sub>=680A/s</b>		<b>305</b>		<b>A</b>
<b>Reverse Recovery Energy</b>	<b>E<sub>rec</sub></b>	<b>T<sub>J</sub>=125</b>		<b>175</b>		<b>mJ</b>



<b>Collector-Emitter Voltage</b>	<b><math>V_{CES}</math></b>	<b><math>V_{CE}=0V, I_C=1mA, T_j=25</math></b>	<b>120</b>	<b>V</b>
<b>Continuous Collector Current</b>	<b><math>I_C</math></b>	<b><math>T_C=100, T_{jmax}=175</math></b>	<b>15</b>	<b>A</b>
<b>Repetitive Peak Collector Current</b>	<b><math>I_{CRM}</math></b>	<b><math>t_p=1ms</math></b>	<b>30</b>	<b>A</b>
<b>Gate-Emitter Voltage</b>	<b><math>V_{GES}</math></b>	<b><math>T_j=25</math></b>	<b>20</b>	<b>V</b>
<b>Total Power Dissipation</b>	<b><math>P_{tot}</math></b>	<b><math>T_C=25, T_{jmax}=175</math></b>	<b>155</b>	<b>W</b>

<b>Gate-emitter Threshold Voltage</b>	<b><math>V_{GE(th)}</math></b>	<b><math>V_{GE}=V_{CE}, I_C=0.5mA, T_j=25</math></b>	<b>52</b>	<b>60</b>	<b>68</b>	<b>V</b>
<b>Collector-Emitter Cut-off Current</b>	<b><math>I_{CES}</math></b>	<b><math>V_{CE}=120V, V_{GE}=0V, T_j=25</math></b>			<b>10</b>	<b>nA</b>
<b>Collector-Emitter Saturation Voltage</b>	<b><math>V_{CE(sat)}</math></b>	<b><math>I_C=15A, V_{CE}=15V, T_j=25</math></b>		<b>185</b>	<b>225</b>	<b>V</b>
		<b><math>I_C=15A, V_{CE}=15V, T_j=125</math></b>		<b>215</b>		
		<b><math>I_C=15A, V_{CE}=15V, T_j=150</math></b>		<b>225</b>		
<b>Gate Charge</b>	<b><math>Q_G</math></b>			<b>009</b>		<b><math>\mu C</math></b>
<b>Input Capacitance</b>	<b><math>C_{in}</math></b>	<b><math>V_{CE}=25V, V_{GE}=0V,</math> <b><math>f=1MHz, T_j=25</math></b></b>		<b>135</b>		<b>nF</b>
<b>Reverse Transfer Capacitance</b>	<b><math>C_{res}</math></b>			<b>008</b>		<b>nF</b>
<b>Gate-Emitter Delay Current</b>	<b><math>I_{GES}</math></b>	<b><math>V_{CE}=0V, V_{GE}=20V, T_j=25</math></b>			<b>40</b>	<b>nA</b>
<b>Turn-on Delay/line</b>	<b><math>t_{on}</math></b>	<b><math>I_C=15A</math> <b><math>V_{CE}=60V</math> <b><math>V_{GE}=\pm 15V</math> <b><math>R_G=3\Omega</math> <b><math>T_j=25</math></b></b></b></b></b>		<b>46</b>		<b>ns</b>
<b>Rise Time</b>	<b><math>t_r</math></b>			<b>45</b>		<b>ns</b>
<b>Turn-off Delay/line</b>	<b><math>t_{off}</math></b>			<b>182</b>		<b>ns</b>
<b>Fall Time</b>	<b><math>t_f</math></b>			<b>168</b>		<b>ns</b>
<b>Energy Dissipation During Turn-on/line</b>	<b><math>E_{on}</math></b>			<b>092</b>		<b>nJ</b>
<b>Energy Dissipation During Turn-off/line</b>	<b><math>E_{off}</math></b>			<b>056</b>		<b>nJ</b>



<b>TurnonDelay/line</b>	$t_{on}$	$I_c=15A$ $V_{CE}=60V$ $V_{CE}=\pm 15V$ $R_f=3\Omega$ $T_j=125$	<b>46</b>		<b>ns</b>
<b>RiseTime</b>	$t_r$		<b>68</b>		<b>ns</b>
<b>TurnoffDelay/line</b>	$t_{off}$		<b>28</b>		<b>ns</b>
<b>FallTime</b>	$t_f$		<b>20</b>		<b>ns</b>
<b>Energy Dissipation During Turnon/line</b>	$E_{on}$		<b>137</b>		<b>nJ</b>
<b>Energy Dissipation During Turnoff/line</b>	$E_{off}$		<b>081</b>		<b>nJ</b>
<b>SCData</b>	$I_c$		$T_p=10ns, V_{CE}=15V, T_j=150$ , $V_{CE}=90V, V_{CEM}=120V$	<b>55</b>	

<b>RepetitivePeakReverseVoltage</b>	$V_{RRM}$	$T_j=25$	<b>120</b>		<b>V</b>
<b>ContinuousDCForwardCurrent</b>	$I_F$		<b>15</b>		<b>A</b>
<b>RepetitivePeakForwardCurrent</b>	$I_{FRM}$	$t_p=1ns$	<b>30</b>		<b>A</b>
<b>Rvalue</b>	$R_\theta$	$V_{CE}=0, t_p=10ns, T_j=125$	<b>400</b>		<b>As</b>
		$V_{CE}=0, t_p=10ns, T_j=150$	<b>310</b>		

<b>ForwardVoltage</b>	$V_F$	$I_F=15A, T_j=25$	<b>200</b>	<b>265</b>	<b>V</b>
		$I_F=15A, T_j=125$	<b>210</b>		
		$I_F=15A, T_j=150$	<b>210</b>		
<b>RecoveredCharge</b>	$Q_r$	$I_F=15A$	<b>120</b>		<b>uC</b>
<b>PeakReverseRecoveryCurrent</b>	$I_r$	$V_{CE}=60V$ $-d_i/d=60A/\mu s$	<b>130</b>		<b>A</b>
<b>ReverseRecoveryEnergy</b>	$E_{rec}$	$T_j=25$	<b>037</b>		<b>nJ</b>
<b>RecoveredCharge</b>	$Q_r$	$I_F=15A$	<b>205</b>		<b>uC</b>
<b>PeakReverseRecoveryCurrent</b>	$I_r$	$V_{CE}=60V$ $-d_i/d=60A/\mu s$	<b>120</b>		<b>A</b>
<b>ReverseRecoveryEnergy</b>	$E_{rec}$	$T_j=125$	<b>068</b>		<b>nJ</b>

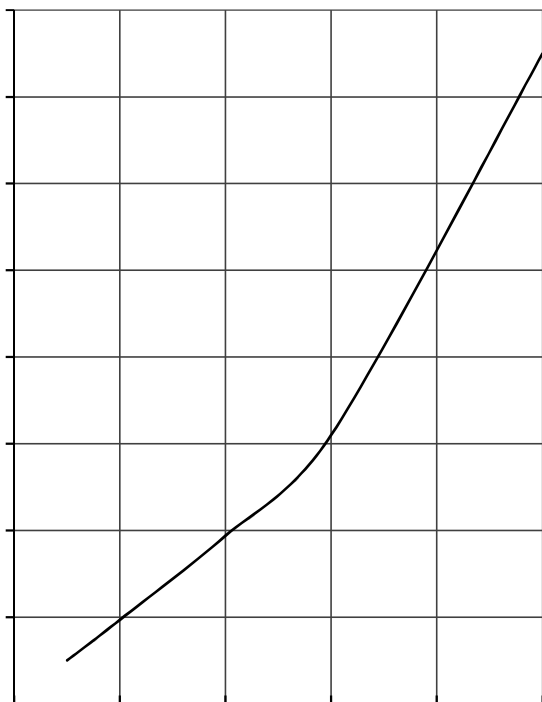
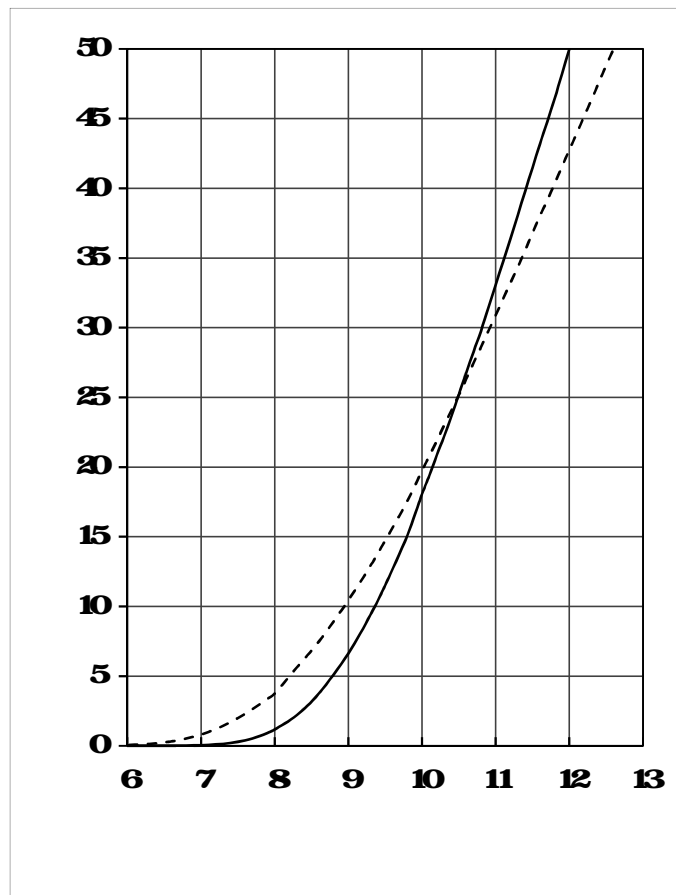
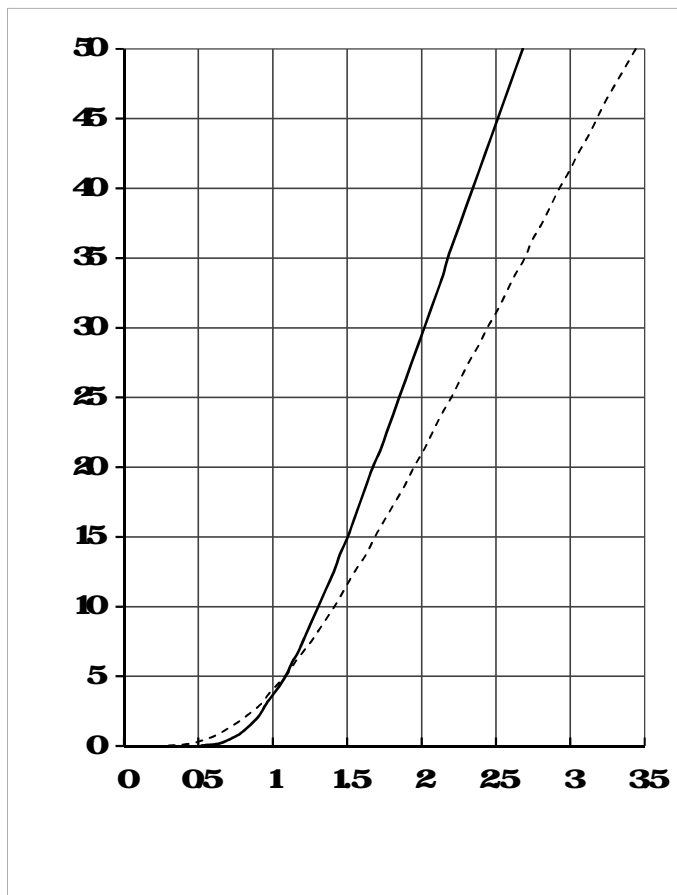


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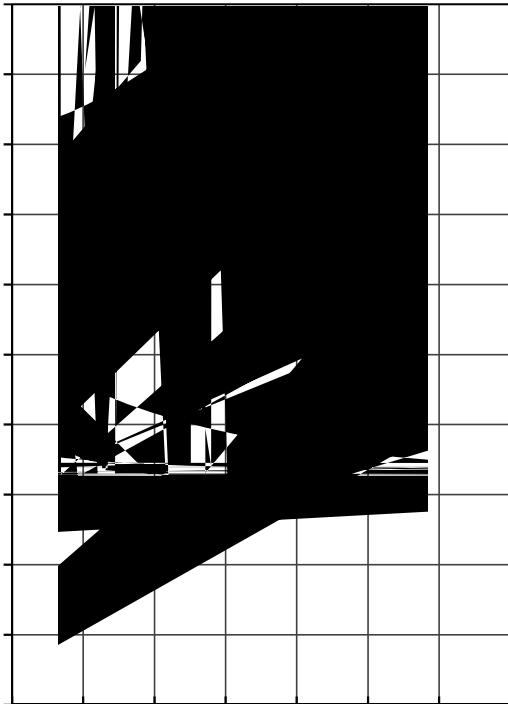
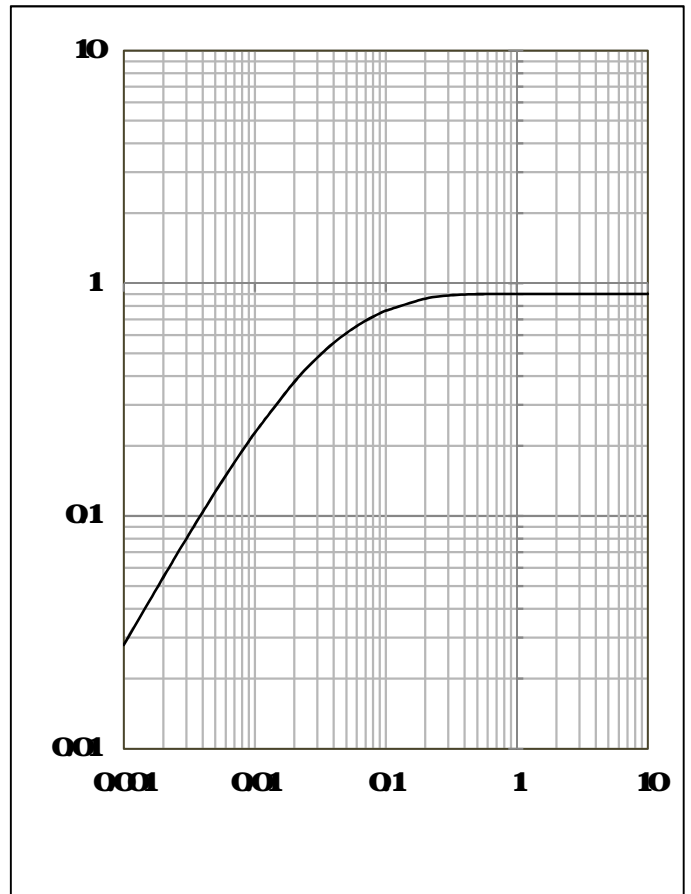
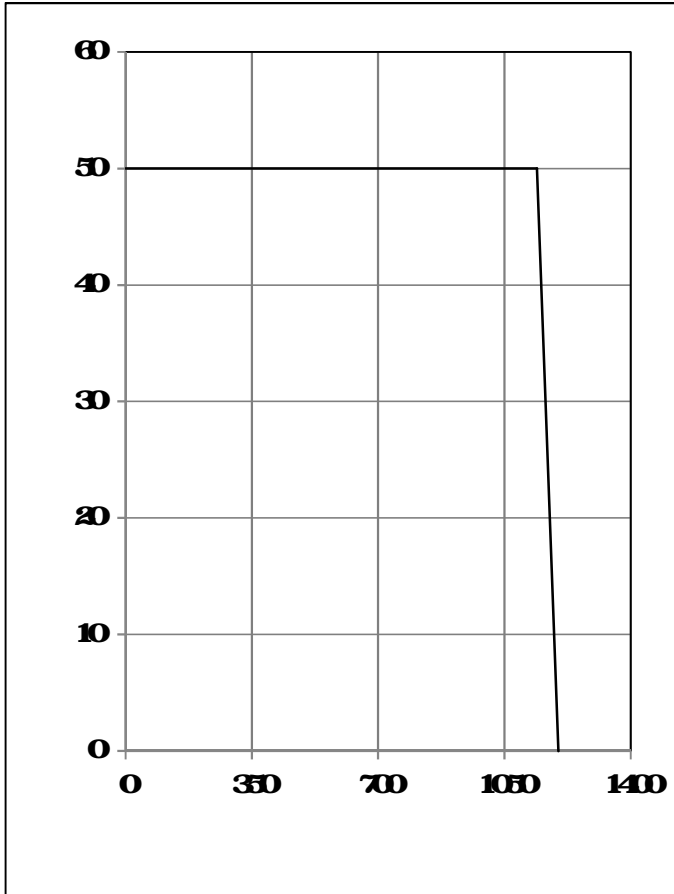
<b>Repetitive Peak Reverse Voltage</b>	<b><math>V_{RRM}</math></b>	<b><math>T_f=25</math></b>	<b>160</b>	<b>V</b>
<b>Average Output Current 50kHz, sine wave</b>	<b><math>I_{(A)}</math></b>	<b><math>T_c=100</math></b>	<b>35</b>	<b>A</b>
<b>Minimum RMS Current at Rectifier Output</b>	<b><math>I_{RSM}</math></b>	<b><math>T_c=100</math></b>	<b>6</b>	<b>A</b>
<b>Surge Forward Current</b>	<b><math>I_{SM}</math></b>	<b><math>V_f=0_p</math></b>		



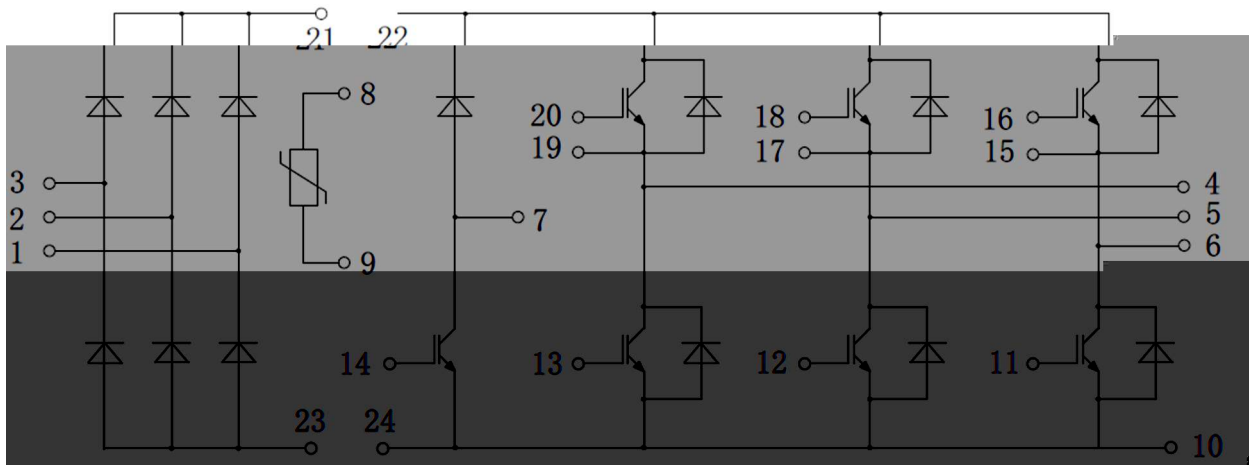
<b>Isolation Voltage</b>	<b>V<sub>sd</sub></b>	<b>t=1min@50Hz</b>	<b>250</b>			<b>V</b>
<b>Minimum Junction Temperature</b>	<b>T<sub>jmin</sub></b>				<b>175</b>	
<b>Operating Junction Temperature</b>	<b>T<sub>jq</sub></b>		<b>-40</b>		<b>150</b>	
<b>Storage Temperature</b>	<b>T<sub>stg</sub></b>		<b>-40</b>		<b>125</b>	
<b>Storage Inductance</b>	<b>L<sub>sc</sub></b>			<b>60</b>		
<b>Module lead resistance, terminals dip</b>	<b>R<sub>CHFE</sub></b>	<b>T<sub>c</sub>=25 °C, per switch</b>		<b>40</b>		
	<b>R<sub>MLCC</sub></b>			<b>30</b>		
<b>Thermal Resistance Junction to Case</b>	<b>R<sub>JC</sub></b>	<b>per GBF in meter</b>			<b>090</b>	<b>KW</b>
		<b>per Dole in meter</b>			<b>120</b>	
		<b>per GBF bare copper</b>			<b>120</b>	
		<b>per Dole copper</b>			<b>150</b>	
		<b>per Dole solder</b>			<b>115</b>	
<b>Thermal Resistance Case to Sink</b>	<b>R<sub>CS</sub></b>	<b>per GBF in meter</b>		<b>033</b>		<b>KW</b>
		<b>per Dole in meter</b>		<b>046</b>		
		<b>per GBF bare copper</b>		<b>046</b>		
		<b>per Dole copper</b>		<b>070</b>		
		<b>per Dole solder</b>		<b>049</b>		
		<b>per Middle</b>		<b>002</b>		
<b>Mating Force Per Clamp</b>	<b>F</b>		<b>30</b>		<b>60</b>	<b>N</b>
<b>Weight of Module</b>	<b>G</b>			<b>180</b>		<b>g</b>











Dimensions in Millimeters

