



**Thermal resistance**

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	R <sub>thJC</sub>	-	-	80	° C/W
Thermal resistance, junction - ambient	R <sub>thJA</sub>	-	-	180	° C/W
Soldering temperature, wavesoldering for 10s	T <sub>sold</sub>	-	-	265	° C

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250uA	30			V
Gate Threshold Voltage	V <sub>GS(TH)</sub>	V <sub>GS</sub> = V <sub>DS</sub> , I <sub>D</sub> = -250uA	1.2	1.6	2.5	V
Drain-Source Leakage Current	I <sub>DSS</sub>	V <sub>DS</sub> = 30V, V <sub>GS</sub> = 0V			1.0	uA
Gate- Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V			±100	nA
Static Drain-source On Resistance	R <sub>DS(ON)</sub>	V <sub>GS</sub> = 10V, I <sub>D</sub> = 6A		22	30	mΩ
		V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 5A		30	40	mΩ
Forward Transconductance	g <sub>FS</sub>	V <sub>DS</sub> = 10V, I <sub>D</sub> = 2A		10		s
Source-drain voltage	V <sub>SD</sub>	I <sub>S</sub> = 6A			1.28	V

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	C <sub>iss</sub>	f = 1MHz	-	650	-	pF
Output capacitance	C <sub>oss</sub>		-	155	-	
Reverse transfer capacitance	C <sub>rss</sub>		-	125	-	

**Gate Charge characteristics (T<sub>a</sub> = 25°C)**

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Total gate charge	Q <sub>g</sub>	V <sub>DD</sub> = 15V	-	11	-	nC
Gate - Source charge	Q <sub>gs</sub>	I <sub>D</sub> = 3A	-	5	-	
Gate - Drain charge	Q <sub>gd</sub>	V <sub>GS</sub> = 4.5V	-	7	-	

Note: ①

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Device mounted on FR-4 substrate PC board, 2oz copper, with thermal bias to bottom layer 1inch square copper plate

Fig.1 Gate-Charge Characteristics

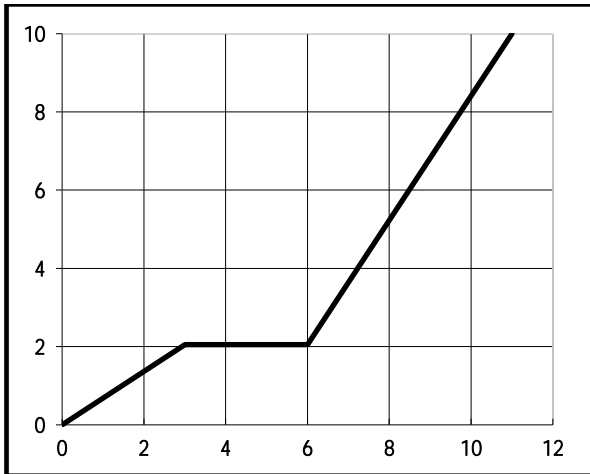


Fig.2 Capacitance Characteristics

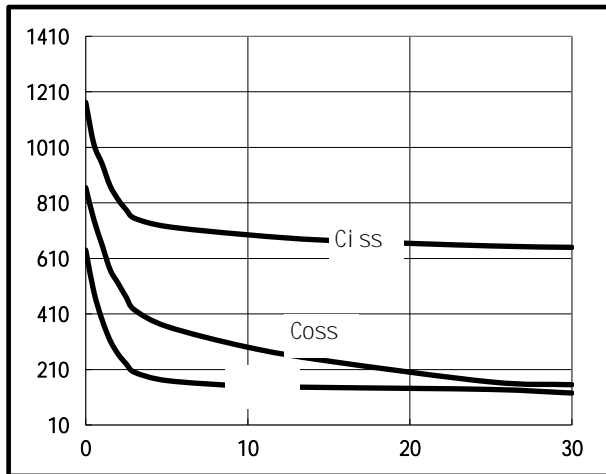


Fig.3 Power Dissipation Derating Curve

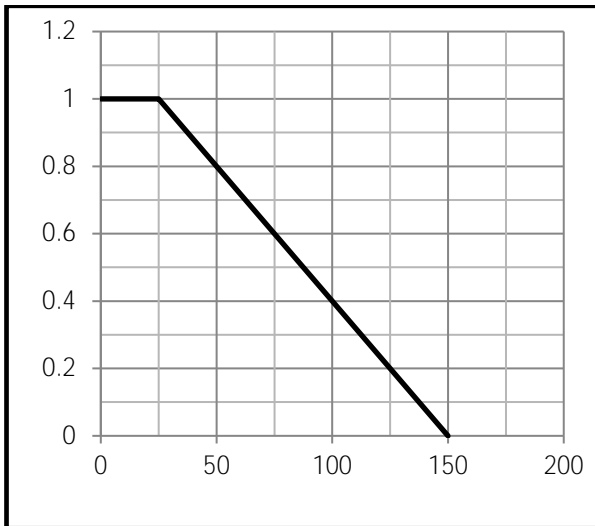


Fig.4 Typical output Characteristics

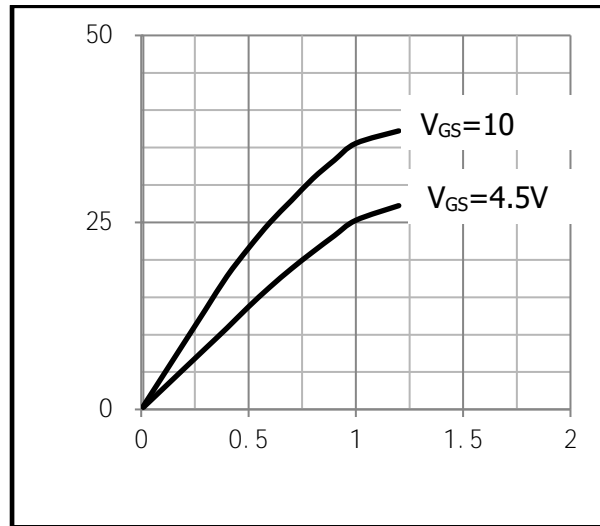


Fig.5 Threshold Voltage V.S Junction Temperature

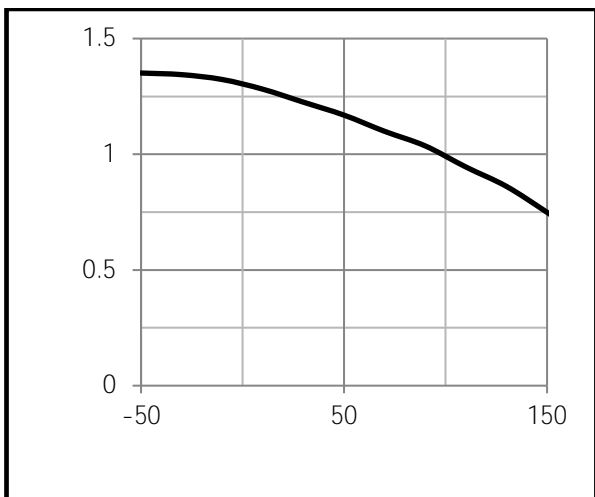


Fig.6 Resistance V.S Drain Current

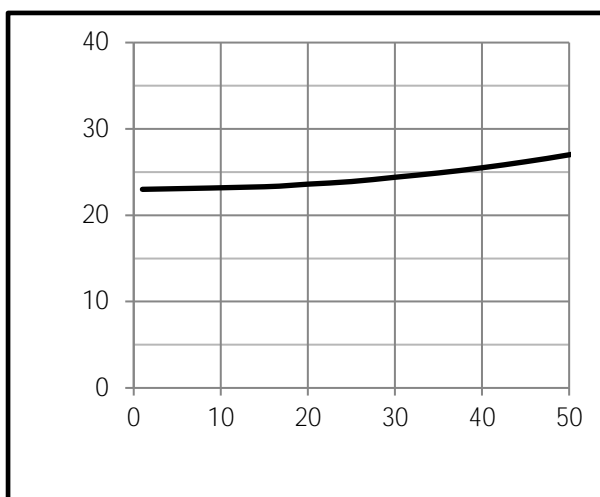


Fig.7 On-Resistance VS Gate Source Voltage

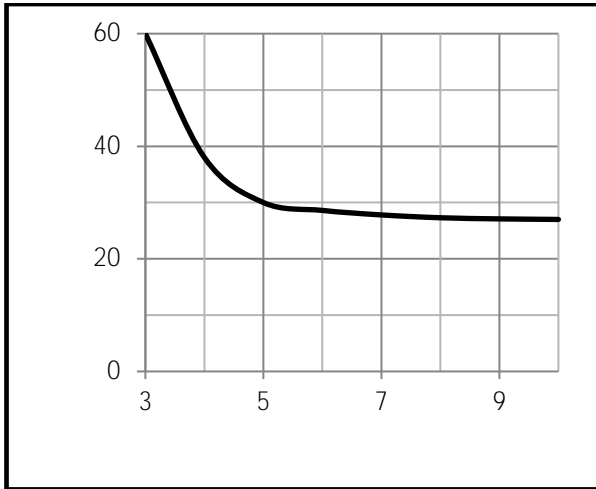


Fig.8 On-Resistance V.S Junction Temperature

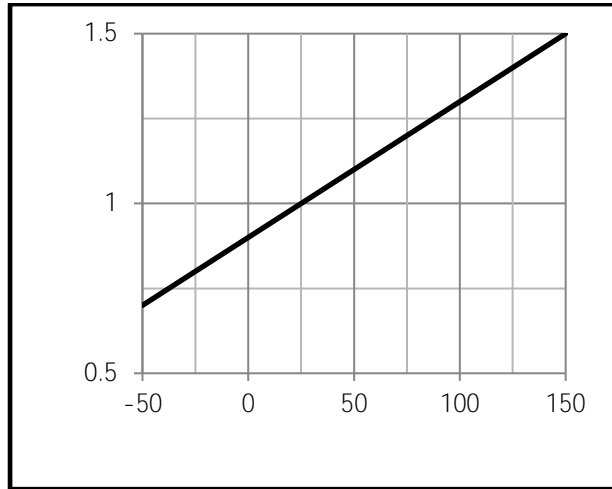


Fig.9 Switching Time Measurement Circuit

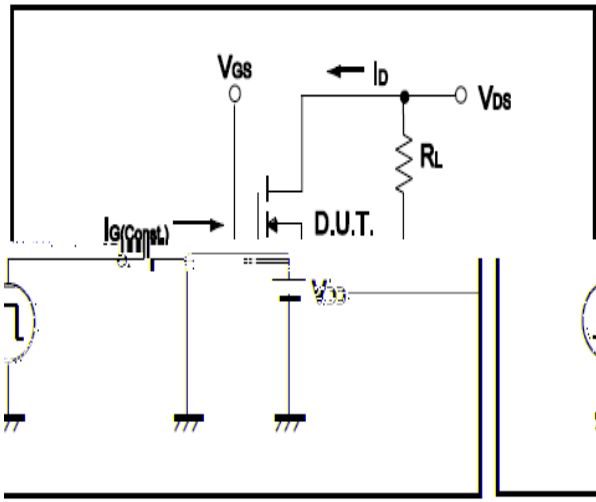


Fig.10 Gate Charge Waveform

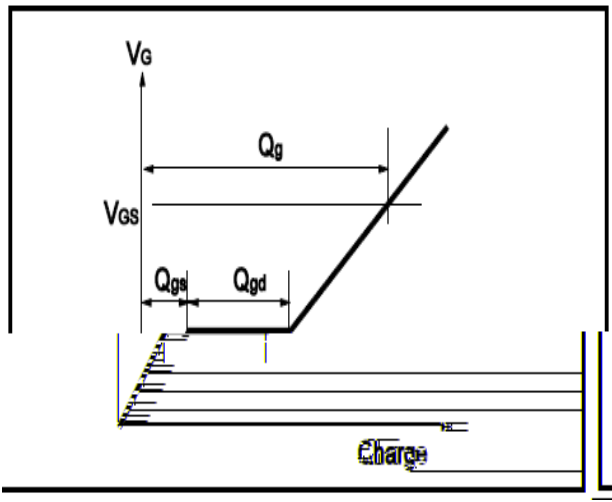


Fig.11 Switching Time Measurement Circuit

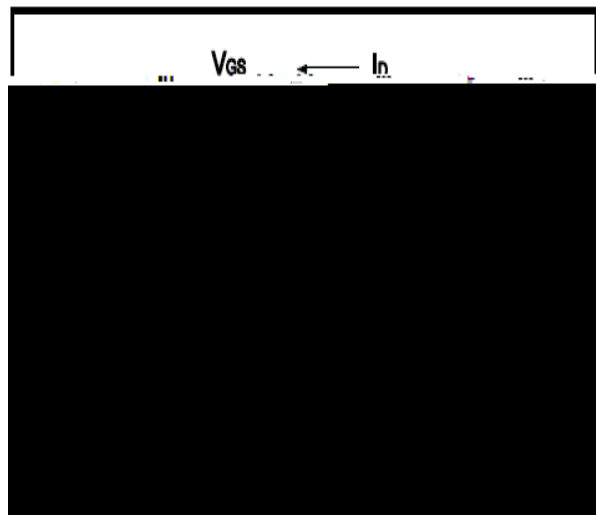
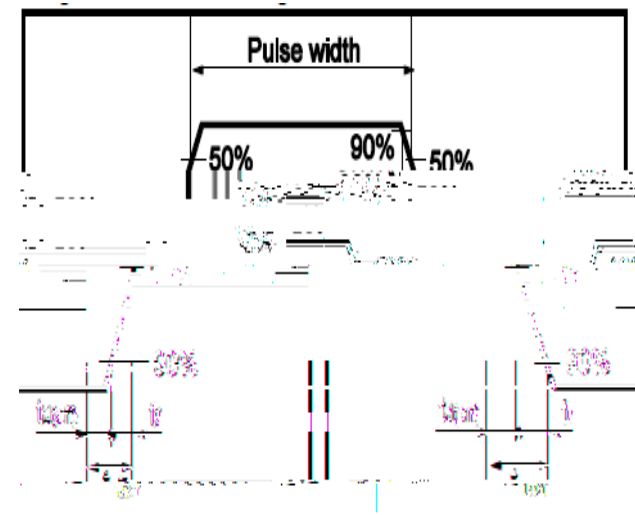


Fig.12 Gate Charge Waveform





(SOT23-3)

Unit mm

