

MOSFET Thermal Resistance Tester

Thermal resistance measurement: It can measure voltage variance after heating and determine heat dissipation.

DVDS-05A20V

Test item	Measured name	Measurement			Source name	Source		
		Unit	Range	Resolution		Unit	Range	Resolution
ΔV_{ds}	ΔV_{ds}	mV	20~2000	$\pm 0.5\%+2\text{cont}$	IMS	mA	0.4~3.9	$\pm 1\%+2\text{cont}$
		mV	20~20000	$\pm 0.5\%+2\text{cont}$		mA	4~39	$\pm 1\%+2\text{cont}$
						mA	40~400	$\pm 2\%+2\text{cont}$
					IMS Delay Time	ms	0.0500~99.0	$\pm 2\%+2\text{cont}$
					PW(IMS)	ms	1.0~99.0	$\pm 2\%+2\text{cont}$
					IDS	A	0.5~4.9	$\pm 1\%+2\text{cont}$
						A	5~50	$\pm 1\%+2\text{cont}$
					VDS	V	1~20	$\pm 1\%+2\text{cont}$
						V	21~200	$\pm 1\%+2\text{cont}$
					PW(IDS)	ms	1.0~300.0 IDS<4A, it can set 300ms IDS>4A, it can set 99ms	$\pm 2\%+2\text{cont}$
			GATE-L	V	1~30	$\pm 1\%+2\text{cont}$		
Conta	CONTA-G	Ω	0.000~10.000	$\pm 3\%+2\text{cont}$	Conta I	A	0.1	$\pm 1\%+2\text{cont}$
	CONTA-D	Ω	0.000~10.000	$\pm 3\%+2\text{cont}$				
	CONTA-S	Ω	0.000~10.000	$\pm 3\%+2\text{cont}$				

Description of test regulation

ΔV_{ds} from :[MIL750 3161.1]

Purpose	The purpose of this test is to measure the thermal impedance of the MOSFET under the specified conditions of applied voltage, current, and pulse duration. The temperature sensitivity of the forward voltage of the source drain diode is used as the junction temperature indicator. This method is particularly suitable to enhancement mode, power MOSFET's having relatively long thermal response times. This test method may be used to measure the thermal response of the junction to a heating pulse, to ensure proper die mount down to its case, or the dc thermal resistance, by the proper choice of the pulse duration and magnitude of the heating pulse.
Guide line	According to theory, please see below drawing. Current flows from left to device and heating current flows from right to device.

